Florida Department of Education
Curriculum Framework

Program Title: **Florida Funeral Director**
Career Cluster: **Health Science**

CCC	
CIP Number	0312030102
Program Type	College Credit Certificate (CCC)
Program Length	31 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	39-4031 Morticians, Undertakers, and Funeral Directors

Purpose

This certificate program is part of the Funeral Services AS degree program (1312030100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as Funeral Directors SOC Code 39-4031 Morticians, Undertakers, and Funeral Directors or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to mortuary administration, funeral law, public health and sanitation, stress management, employability skills, leadership and human relations skills, and health and safety.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Regulated Programs

The Florida Funeral Director Certificate holder may take the Florida Laws and Rules Exam to practice as a licensed Funeral Director according to Florida Statute 497.373 as approved by the Florida Department of Financial Services, Division of Funeral, Cemetery and Consumer Services.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Take care of the dead in a manner which recognizes the inherent dignity of human-kind.
02.0 Identify the privileges of and be able to, through professional practices, fulfill the responsibilities of licensure.
03.0 Interpret and communicate the purposes, procedures, and values of funeral services.
04.0 Counsel people regarding funeralization.
05.0 Plan, implement, and direct a funeral according to the sociological, psychological and theological needs of the person being served.
06.0 Identify and comply with the laws pertaining to funeral service practice and public health.

Florida Department of Education
Student Performance Standards

Program Title: **Florida Funeral Director**
CIP Number: **0312030102**
Program Length: **31 credit hours**
SOC Code(s): **39-4031**

This certificate program is part of the Funeral Services AS degree program (1312030100). At the completion of this program, the student will be able to:		
01.0	Take care of the dead in a manner which recognizes the inherent dignity of human-kind–The student will be able to:	
	01.01	Give evidence of respect for human remains.
	01.02	Demonstrate acceptance of racial and cultural diversity.
02.0	Identify the privileges of and be able to, through professional practices, fulfill the responsibilities of licensure–The student will be able to:	
	02.01	Identify the privileges and their limitations accorded the licensee with regard to caring for the dead, and serving the living.
	02.02	Identify the responsibilities of the funeral director to those who have called him with regard to:
		02.02.01 Providing services and merchandise as selected.
		02.02.02 Explaining the financial aspects of the funeral, and pricing method used.
		02.02.03 Explaining death benefits and/or burial allowances.
		02.02.04 Notifying the clergy of the death, if appropriate.
		02.02.05 Coordinating with the clergy on religious aspects of the funeral.
		02.02.06 Explaining merchandise and related representations regarding final disposition.
		02.02.07 Preparing a Statement of Goods and Services Selected pertaining to services, selected merchandise, supplemental items and cash advances.
		02.02.08 Explaining applicable laws, rules and regulations.
		02.02.09 Referring families for professional counseling as appropriate.
	02.03	Identify the responsibilities of the funeral director to the profession with regard to:

	02.03.01	Costs,-procedures, and communication	when transferring human remains to another funeral establishment.
	02.03.02	Public education regarding funeralization.	
02.04	Identify the responsibilities of the funeral director to the clergy in the matter of the policies, rules and regulations of religious organizations.		
02.05	Perform the following tasks applicable to the state in which he/she intends to gain a license:		
	02.05.01	State the limitations placed upon the practice of the funeral director/embalmer.	
	02.05.02	Summarize the law, rules and regulations pertaining to:	
		02.05.02.01	The transportation of the dead.
		02.05.02.02	Requirements and specifications of the funeral home, including the preparation room.
		02.05.02.03	Define terms specified in the license laws, rules and regulations.
		02.05.02.04	Identify the qualifications required of applicants for funeral director/mortician license.
		02.05.02.05	Identify the grounds for issuance, revocation, suspension or refusal to renew or issue licenses.
		02.05.02.06	Identify requirements for the conducting of funerals.
		02.05.02.07	Identify the procedures for filing a complaint concerning a violation of the licensing law.
		02.05.02.08	Identify provisions regarding reciprocity, endorsement and emergency licensing.
03.0	Interpret and communicate the purposes, procedures, and values of funeral services–The student will be able to:		
03.01	Identify the purposes which the funeral serves for the family, friends, church, occupational associates, and community of the deceased.		
03.02	Identify the values of the funeral.		
03.03	Define common terms used in funeral services.		
03.04	Identify the psychological purposes and values of the funeral.		
03.05	Identify the sociological purposes and values of the funeral.		
03.06	Organize and be prepared to discuss the purposes and values of the funeral.		
03.07	Identify the philosophical purposes and values of funeral service.		
04.0	Counsel people regarding funeralization–The student will be able to:		

	04.01	Identify the major financial considerations that confront a bereaved family.
	04.02	Identify the times or situations during which a funeral director will make use of counseling.
	04.03	State the areas of counseling normally covered during funeralizations.
	04.04	Describe the process of funeralization.
	04.05	Describe contemporary opinions regarding psychology of death, grief, and bereavement.
	04.06	Describe how the manner and cause of death affects the psychological needs of the bereaved.
	04.07	List the information of importance to obtain during each type of counseling situation.
	04.08	Identify and appraise the basic personal and personality problems that may appear during counseling situations.
	04.09	Classify and analyze the various forms of funeral rites.
	04.10	Describe contemporary opinions regarding sociology of death, grief, and bereavement.
	04.11	Describe three or more types of counseling techniques applicable to funeral services and give reasons for the use of each in individual circumstances.
	04.12	Describe recent developments pertaining to the theologies of death, grief and bereavement.
	04.13	Describe the effects of the Uniform Anatomical Gift Act on funeralization.
	04.14	Identify and describe stages of dying.
05.0	Plan, implement, and direct a funeral according to the sociological, psychological and theological needs of the person being served–The student will be able to:	
	05.01	Develop a warm, friendly and tactful attitude towards the family at the first meeting.
	05.02	Identify the items of information which are necessary to complete the following forms:
		05.02.01 Obituary
		05.02.02 Death certificate via the Electronic Death Registration System (EDRS)
		05.02.03 Social Security forms (SSA, 719, SSA 721)
		05.02.04 Veteran's forms (Marker, Flag, Burial Allowance)
		05.02.05 Burial/Transportation permits
		05.02.06 Release/Authorization forms

05.03	Identify the person(s) who are qualified to give permission for release of the deceased from a hospital, or to sign the hospital death record, if required.
05.04	Identify the information to be secured from, and given to, the family upon initial family contact.
05.05	Describe the multiple steps required between initial notification of death and removal of the deceased.
05.06	Identify person(s) who qualify to authorize autopsy and embalming, and to approve the purpose and disclosure statement.
05.07	Identify the items and considerations usually included in the arrangement conference.
05.08	Identify the types of death certificates and their uses.
05.09	Identify the appropriate times usually considered necessary to meet the funeral needs of those being served.
05.10	Identify the consideration normally involved in setting the order for the processional and recessional of a funeral service including casket, casket bearer, children, clergy, friends, fraternal orders, funeral directors, honorary bearers, next of kin, relatives and service organization.
05.11	Describe the multiple steps required between initial notification of death and removal of the deceased when the bereaved are not present at the time of death, regardless of the place or manner of death - including, but not limited to, the funeral director's determination of the need for a personal conference and/or counseling of the bereaved prior to the funeral arrangement conference.
05.12	Identify the items of clothing ordinarily required for the deceased.
05.13	Describe the proper techniques and equipment employed in the dignified removal of remains under diverse conditions.
05.14	Identify the reasons which require a discussion involving the family, the officiating clergyman, and the funeral director regarding visitation hours, time of funeral, and other aspects of the service.
05.15	Identify the purpose of the Burial-Transit Permit.
05.16	Write obituary and death notices.
05.17	Identify the purpose and content of pre-selection counseling.
05.18	Identify the participants functioning in funeral service and explain their duties.
05.19	Describe considerations involved in the dignified movement of casketed remains.
05.20	State considerations for determining the order of the funeral procession.
05.21	Coordinate a variety of committal rites when these are a part of a funeral.
05.22	Identify the psychological and sociological value of the funeral arrangement conference.
05.23	Identify methods of dealing with inter-personal conflicts among family members.
05.24	Discuss dismissal procedures for leaving the grave site.

	05.25	Explain the problems involved in harmonizing the colors of caskets in the funeral setting.	
	05.26	Describe the various types of floral arrangements and the considerations involved in their placement.	
	05.27	Identify requirement/procedure pertaining to cremation, calcination and burial at sea.	
06.0	Identify and comply with the laws pertaining to funeral service practice and public health–The student will be able to:		
	06.01	Identify legally:	
		06.01.01	The duty of the funeral director regarding the personal effects of a decedent.
		06.01.02	The basis of a funeral director's liability for the negligence of a volunteer driver in a funeral procession.
		06.01.03	The legal duty of a funeral director regarding permits required by law.
		06.01.04	The duty of the funeral director for compliance with the Federal Trade Commission Funeral Rules.
		06.01.05	The duty of the funeral director for compliance with the Magnuson-Moss Warranty Act (1975).
		06.01.06	The duty of the funeral director for compliance with the provisions of Federal Wage and Hour Laws.
	06.02	Describe status of a funeral bill as a charge against the estate.	
	06.03	Identify:	
		06.03.01	The conditions under which a funeral director must have permission before permitting an autopsy in their establishment, and state whether that permission may be qualified, restricted or revoked.
		06.03.02	The legal duty of the funeral director regarding the personal effects of a decedent.
		06.03.03	The extent of control a funeral director has over a funeral, and their legal duties to those attending a funeral or viewing a body at their funeral home.
		06.03.04	Why a funeral director should be familiar with the law of disinterment.
		06.03.05	The circumstances under which exhumation is permitted in criminal cases, and in civil cases.
		06.03.06	The liability of the funeral director for the custody of the remains.
	06.04	Identify:	
		06.04.01	The proper position the funeral director should take when survivors of a decedent disputes the exercise of the right of disposition.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Biotechnology Laboratory Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0341010101
Program Type	College Credit Certificate (CCC)
Program Length	30 credit hours
CTSO	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	19-4021 Biological Technicians

Purpose

This certificate program is part of the Biotechnology Laboratory Technology AS degree program (1341010100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program offers a sequence of Biotechnology, Chemistry, Statistics, and Health courses providing sound workforce content along with both academic preparation and industry-standard technical skills needed to advance education and careers in the biotechnology career cluster. This certificate provides for development of technical ability, including competency-based applied learning to develop and enhance academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the biotechnology career cluster.

The content includes but is not limited to broad biology and chemistry concepts, statistical analysis, documentation procedures, basic and advanced laboratory techniques and concepts, working in a regulated environment, and biohazard and safety procedures

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate communication skills.
02.0 Demonstrate safety skills.
03.0 Demonstrate basic laboratory skills.
04.0 Demonstrate regulatory compliance.
05.0 Demonstrate appropriate decision making and problem solving techniques.
06.0 Demonstrate specific laboratory skills.
07.0 Demonstrate quality assurance/control.
08.0 Maintain facility and equipment.

Florida Department of Education
Student Performance Standards

Program Title: **Biotechnology Laboratory Specialist**
CIP Number: **0341010101**
Program Length: **30 credit hours**
SOC Code(s): **19-4021**

This certificate program is part of the Biotechnology Laboratory Technology AS degree program (1341010100). At the completion of this program, the student will be able to:	
01.0	Demonstrate communication skills--The student will be able to:
01.01	Make professional oral and written presentations.
01.02	Comprehend and use correct scientific, technical and medical vocabulary.
01.03	Follow/analyze experimental and laboratory protocols.
01.04	Prepare identify and apply changes to control procedures.
01.05	Write or update manuals, SOP's protocols, reports and technical summaries.
01.06	Keep accurate laboratory records in notebooks or other approved mediums.
01.07	Perform computerized research and web searches, including, but not limited to Pub Med and identify basic reference resources in biotechnology, including, but not limited to original journal articles.
01.08	Recognize differences between primary scientific references and secondary information sources.
01.09	Perform basic applications in word processing, spread sheets, databases, presentations and project management.
01.10	Develop basic observational skills and related documentation strategies in written and oral form.
01.11	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
02.0	Demonstrate safety skills--The student will be able to:
02.01	Identify and maintain first aid supplies, eye wash station, emergency shower, co-worker contact, medical information, emergency protection, chemical hygiene plan and evacuation plan.
02.02	Follow correct safety procedures, guidelines and chemical hygiene plans.
02.03	Maintain required environmental health, safety, and laboratory training.

	02.04	Maintain a safe, uncluttered and clean work area.
	02.05	Handle, store, and dispose of hazardous materials per appropriate MSDS, other safety guidelines, Worker Protection Standards (WPS) and/or appropriate regulatory guidelines (i.e.. State, federal, local, accreditation, etc.).
	02.06	Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.
	02.07	Demonstrate procedures for declaring a laboratory emergency and/or responding with appropriate institutional procedures.
03.0	Demonstrate basic laboratory skills--The student will be able to:	
	03.01	Obtain and read protocol, test procedure, standard operating procedure (SOP), equipment manuals, and proper forms.
	03.02	Prioritize and perform multiple tasks in a timely manner, based upon priorities communicated by supervisor.
	03.03	Clean, organize and sterilize materials and laboratory instruments, when required.
	03.04	Organization of supply inventory; date/label reagents and store promptly upon arrival.
	03.05	Demonstrate knowledge of asepsis and practice procedures such as hand-washing and isolation.
	03.06	Use titration/pipetting techniques; measure volume/weights.
	03.07	Perform basic calculations, unit conversions, graphing of data and statistical analysis.
	03.08	Calculate and prepare dilutions series.
	03.09	Prepare solutions and reagents for laboratory use.
	03.10	Monitor physical properties of reagents, buffers, media and solutions and determine optimum conditions for use.
	03.11	Obtain and review appropriate procedures and test forms, prepare for laboratory inspections and respond to the reports.
	03.12	Collect and set up samples for analysis.
	03.13	Set up general laboratory tests, including, setup equipment and perform/document tests and results.
	03.14	Demonstrate knowledge of chemical cross-contamination control between reagents from weighing implements, storage containers and media.
	03.15	Make estimations and approximations and judge the reasonableness of the result.
04.0	Demonstrate regulatory compliance--The student will be able to:	
	04.01	Follow guidelines from the appropriate regulatory, accreditation, and/or certification agencies, such as FDA, OSHA, USDA, NIH, NR, DOT, EPA, CDC, ISO/IEC and NRC.
	04.02	Comply with principles using current Good Experimental Practices and quality improvement systems (e.g., GXP; GLP, GMP, GCP)

05.0	Demonstrate appropriate decision making and problem solving techniques--The student will be able to:
05.01	Identify decision to be made and compare alternatives.
05.02	Apply decision making skills in the workplace.
05.03	Make decisions based on accurate facts, data, and agreed-upon goals.
05.04	Evaluate the decision made.
05.05	Demonstrate ability to evaluate data and draw conclusions.
05.06	Diagnose problem, its urgency and causes, and documenting as appropriate.
05.07	Explore possible solutions to a problem and compare/contrast advantages.
05.08	Determine appropriate action, implement it and evaluate results.
06.0	Demonstrate specific laboratory skills--The student will be able to:
06.01	Perform various techniques associated with mammalian and/or insect cell culture, including isolation, maintenance, characterization, and storage of pure cultures.
06.02	Decontaminate and/or dispose of equipment, glassware, biologicals.
06.03	Perform microbiology skills, which may include but are not limited to, plating techniques, isolating and characterizing cell lines, propagating cell lines, and cryogenic techniques.
06.04	Perform various genetic engineering techniques including but not limited to, transformation, transfection of mammalian, insect, and/or bacterial cells.
06.05	Perform bioassays.
06.06	Perform immunological techniques, including but not limited to, enzyme-linked immunosorbent assays, use of monoclonal and polyclonal antibodies, and Western blot techniques.
06.07	Perform various molecular biology techniques, including but not limited to isolation, quantitation, amplification, electrophoresis and hybridization of both RNA and DNA and construction of recombinant vectors.
06.08	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
06.09	Perform various protein techniques including but not limited to, separation, isolation, characterization, quantitation, monitoring protein stability, gel electrophoresis, concentration (filter and dialyze), and conduct enzyme activity assays.
06.10	Perform chemical assays including but not limited to measuring turbidity, viscosity, density, quantitative analysis, distillation techniques, titration techniques, employing dyes and indicators, lyophilization and organic chemistry techniques.
06.11	Collect data, perform assays, and document results of laboratory instruments.
06.12	Demonstrate knowledge of instrument-based separation, including but not limited to various chromatography techniques and other separation methodologies (e.g.. FACS).

	06.13	Understand the principles underlying spectroscopic analysis.
07.0	Demonstrate quality assurance/control--The student will be able to:	
	07.01	Perform quality tests and document results.
	07.02	Verify test standards and maintain QA records.
	07.03	Archive samples and documents.
	07.04	Inspect and verify integrity of product, procedure, and specimen.
	07.05	Understand the role of statistical trend analysis for the release of final product.
	07.06	Investigate complaints and take corrective action.
08.0	Maintain facility and equipment--The student will be able to:	
	08.01	Monitor/record the environmental condition of the facility (e.g., growth chamber, laboratory, greenhouse, storage room, animal room, freezers or manufacturing site).
	08.02	Notify appropriate personnel if sampling indicates a problem.
	08.03	Clean work area according to SOPs.
	08.04	Label equipment.
	08.05	Check calibration and perform systems diagnostics
	08.06	Check and maintain equipment, logs and perform preventative maintenance tasks according to schedule and, operate laboratory equipment and instrumentation after familiarization with manuals and/or training.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program is designed to prepare students for employment as Biotechnology Research Technicians, Biological Technicians (SOC Code 19-4021) or cell culture technicians or biotechnology manufacturing technician and/or to supply supplemental training for persons previously or currently employed in these occupation

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals and Skills USA are the intercurricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Assisting Technology and Management – ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	H170113
CIP Number	0351060108	0351060113
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	50 credit hours	1230 clock hours
CTSO	HOSA: Future Health Professionals	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9091 Dental Assistants 31-9099 Healthcare Support Workers, All Other	31-9091 Dental Assistants 31-9099 Healthcare Support Workers, All Other
Basic Skills Level:	Reading: 10 Mathematics 10 Language: 10	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as dental assistants 66002 (SOC code 31-9091), educational managers for dental companies, and dental assisting educators. The program will prepare students for the Dental Assisting National Board Examination as well as state requirements. The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association and standards recommended by the Florida Board of Dentistry

The content includes but is not limited to, dental office and patient management, basic dental laboratory procedures, dental and general anatomy, dental terminology, nutrition, dental instrument and equipment utilization, microbiology, dental pharmacology and anesthesia, chairside assisting and expanded functions, dental office emergencies/CPR, dental radiography, maintenance and asepsis of dental operatory and instrumentation,

dental specialty procedures, employability skills, leadership and human relations skills, ethics and jurisprudence, dental materials and preventive dentistry.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 3 occupational completion points and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	DEA0725	Introduction to Dental Assisting	90 hours	31-9099
B	DEA0726	Dental Infection Control Assistant	210 hours	31-9099
C	DEA0727	Dental Assisting 1	465 hours	31-9091
	DEA0728	Dental Assisting 2	465 hours	

College Credit

When offered at the college level, this ATD program is part of the Dental Assisting Technology and Management AS (1351060104) and has a program length of 50 credits.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the dental health care delivery system and dental health occupations
02.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas
03.0 Describe the legal and ethical responsibilities of the dental health care worker
04.0 Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts
05.0 Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance
06.0 Recognize and respond to emergency situations
07.0 Use information technology tools
08.0 Explain the importance of employability skills
09.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS
10.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives
11.0 Use dental terminology.
12.0 Identify structures and explain functions and pathologies of dental and general head and neck anatomy.
13.0 Identify principles of microbiology and disease prevention and perform infection control procedures.
14.0 Identify, describe, maintain and utilize dental instruments and equipment.
15.0 Record patient assessment and treatment data.
16.0 Identify the functions of pharmacology and anesthesia as they relate to dentistry
17.0 Identify and perform dental and carpal radiographic procedures.
18.0 Identify properties and uses, and manipulate dental materials.
19.0 Perform chairside assisting for general dentistry and specialty procedures.
20.0 Describe principles and perform techniques of preventive dentistry.
21.0 Perform general dental business office procedures.
22.0 Demonstrate professionalism as a dental team member in the clinical setting.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Assisting Technology and Management – ATD**
PSAV Number: **H170113**

When this program is offered at the PSAV level, the following organization of courses, standards, and benchmarks apply.

Course Number: DEA0725 **Occupational Completion Point: A** **Introduction to Dental Assisting – 90 Hours – SOC Code 31-9099**	
01.0	Demonstrate knowledge of the dental health care delivery system and dental health occupations – The student will be able to:
01.01	Identify the basic components of the dental health care delivery system including public, private, government and non-profit.
01.02	Describe the various types of dental health care providers and the range of services available.
01.03	Describe the composition and functions of a dental health care team
01.04	Identify the general roles and responsibilities of the individual members of the dental health care team.
01.05	Identify the roles and responsibilities of the consumer within the dental healthcare system.
01.06	Explain the cause and effects of factors that influence the current delivery system of dental healthcare.
01.07	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on the dental healthcare delivery system.
01.08	Discuss the history of dentistry.
02.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas – The student will be able to:
02.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
02.04	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writin
02.05	Recognize components of medical and dental terminology and abbreviations.
02.06	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relatio

	02.07	Recognize the importance of patient education regarding dental and health care.
	02.08	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic religious groups.
	02.09	Identify psychological considerations influencing communication and behaviors.
03.0	Describe the legal and ethical responsibilities of the dental health care worker – The student will be able to:	
	03.01	Identify areas of Florida Statute 466 and Rule 64B5-16 FAC and Rule 64B5-25 FAC applicable to practice by the dental health worke
	03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03	Demonstrate procedures for accurate documentation and record keeping.
	03.04	Interpret healthcare facility policy and procedures.
	03.05	Explain the patients' "Bill of Rights."
	03.06	Identify and implement standards of the Health Insurance Portability and Accountability Act (HIPAA).
	03.07	Distinguish between express, implied and informed consent.
	03.08	Explain the laws governing harassment, labor and employment.
	03.09	Differentiate between legal and ethical issues in dentistry.
	03.10	Describe a Code of Ethics consistent with the dental assisting profession.
	03.11	Identify and compare personal, professional and organizational ethics.
	03.12	Recognize the limits of authority and responsibility of dental health care workers including legislated scope of practice.
	03.13	Recognize and report illegal and/or unethical practices of dental health care workers.
	03.14	Recognize and report abuse including domestic violence and neglect.
	03.15	Identify resources to victims of domestic violence.
	03.16	Explain risk management.
04.0	Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts – The student will be able to:	
	04.01	Develop a basic understanding of the structure and function of the body systems
	04.02	Identify common disorders related to each of the body systems.

	04.03 Explain basic concepts of positive self-image, wellness and stress.
	04.04 Develop a wellness and stress control plan that can be used in personal and professional life.
05.0	Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance – The student will be able to:
	05.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	05.02 Identify and describe methods in medical error reduction and prevention in the dental healthcare setting.
	05.03 Demonstrate an understanding of personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.04 Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
	05.05 Demonstrate procedures for the safe transport and transfer of patients.
	05.06 Describe fire safety, disaster and evacuation procedures.
	05.07 Explain emergency procedures to follow in response to workplace accidents.
	05.08 Demonstrate handwashing and the use of personal protective equipment used in dentistry.
06.0	Recognize and respond to emergency situations – The student will be able to:
	06.01 Take and record vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
07.0	Use information technology tools – The student will be able to:
	07.01 Define terms and demonstrate basic computer skills.
	07.02 Interpret information from electronic medical documents.
08.0	Explain the importance of employability skills – The student will be able to:
	08.01 Identify personal traits or attitudes desirable in a member of the healthcare team.
	08.02 Exemplify basic professional standards of dental healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	08.03 Maintain a career portfolio to document knowledge, skills, and experience.
	08.04 Write an appropriate resume.

	08.05	Conduct a job search and complete a job application form correctly.
	08.06	Demonstrate competence in job interview techniques.
	08.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	08.08	Examine licensing, certification, and industry credentialing requirements.
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS – The student will be able to:	
	09.01	Recognize emerging diseases and disorders.
	09.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	09.03	Identify "at risk" behaviors that promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	09.04	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	09.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	09.06	Demonstrate knowledge of the legal aspects of AIDS, including testing.
10.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives – The students will be able to:	
	10.01	Analyze attributes and attitudes of an effective leader.
	10.02	Recognize factors and situations that may lead to conflict.
	10.03	Demonstrate effective techniques for managing team conflict.

Course Number: DEA0726 **Occupational Completion Point: B** **Dental Infection Control Assistant – 210 Hours – SOC Code 31-9099**		
11.0	Use dental terminology -- The student will be able to:	
	11.01	Identify and define common dental terms.
	11.02	Demonstrate the use of proper dental terminology in the dental environment.
12.0	Identify structures and explain functions and pathologies of dental and general head and neck anatomy -- The student will be able to:	
	12.01	Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, lymph nodes, nerves, and blood vessels.

	12.02 Identify embryonic development of head, oral cavity, and teeth.
	12.03 Identify teeth and their landmarks, and the morphological characteristics of each individual tooth.
	12.04 Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.
	12.05 Recognize and describe oral pathological conditions, related to the teeth and their supporting structures.
	12.06 Recognize and describe developmental anomalies related to the teeth, face, and oral structures.
	12.07 Describe and differentiate between normal and malocclusion.
	12.08 Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the oral cavity.
13.0	Identify principles of microbiology and disease prevention and perform infection control procedures -- The student will be able to:
	13.01 Differentiate between pathogenic and non-pathogenic microorganisms.
	13.02 Describe pathogens and modes of disease transmission.
	13.03 Differentiate between aseptic and non-aseptic environments.
	13.04 Describe and apply methods of cleaning, disinfection, and sterilization.
	13.05 Identify chemicals and their uses for controlling the spread of disease in the dental environment
	13.06 Identify and practice the current CDC guidelines for infection control in dental healthcare settings.
	13.07 Describe the duties of the dental office safety coordinator
	13.08 Demonstrate compliance with the OSHA Bloodborne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.
	13.09 Identify and manage hazardous chemicals and biomedical wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200), 64E-16 F.A.C., and Environmental Protection Agency regulations.
	13.10 Define principles of infection control including standard and transmission based precautions.
	13.11 Demonstrate knowledge of dental asepsis
	13.12 Implement appropriate handwashing procedures and use of protective barriers
	13.13 Demonstrate knowledge of surgical asepsis and isolation.
14.0	Identify, describe, maintain and utilize dental instruments and equipment.--The student will be able to:
	14.01 Identify various types, functions and operations of dental operatory and laboratory equipment.

14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.
14.03	Maintain dental operatory equipment and instruments.
14.04	Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.
14.05	Seat and dismiss patients.
14.06	Operate oral evacuation devices and air/water syringe.
14.07	Maintain a clear field of vision including isolation techniques.
14.08	Perform a variety of instrument transfers to include four-handed dentistry.
14.09	Utilize appropriate chairside assistant ergonomics.

Course Number: DEA0727 Occupational Completion Point: C Dental Assisting 1 – 465 Hours – SOC Code 31-9091	
15.0	Record patient assessment and treatment data -- The student will be able to:
15.01	Take and record medical-dental histories.
15.02	Record assessment of existing oral conditions.
15.03	Record conditions diagnosed by the dentist.
15.04	Record treatment-related data on the patient's clinical record
15.05	Record treatment plan and treatment in patient's chart
15.06	Perform a visual assessment of existing oral conditions.
15.07	Distinguish between and report subjective and objective information.
15.08	Report relevant information in order of occurrence.
16.0	Identify the functions of pharmacology and anesthesia as they relate to dentistry -- The student will be able to:
16.01	Identify drug requirements, agencies, and regulations.
16.02	Distinguish among the five schedules of controlled substances.
16.03	Record a drug prescription in a patient's chart.

	16.04	Utilize ratios and proportional problems to calculate prescribed drug dosages.
	16.05	Identify drug actions, side effects, indications and contraindications; verify with Physician's Desk Reference or its equivalent.
	16.06	Identify common drugs used in dentistry.
	16.07	Prepare and apply topical anesthetic agent.
	16.08	Identify properties of anesthetics.
	16.09	Prepare syringes for the administration of local anesthetics.
	16.10	Monitor and identify precautions in the use of nitrous oxide-oxygen conscious sedation.
	16.11	Calculate the percentage of nitrous oxide-oxygen delivered during a conscious sedation procedure.
	16.12	Identify drugs and agents used for treating dental-related infection
	16.13	Identify and respond to dental office emergencies
17.0		Identify and perform dental and carpal radiographic procedures -- The student will be able to:
	17.01	Describe history, physics and biological effects of ionizing radiation.
	17.02	Identify parts of the X-ray machine including accessories.
	17.03	Demonstrate radiologic health protection techniques.
	17.04	Describe dark room/processing procedures, mix solutions.
	17.05	Describe the proper disposal of hazardous radiographic waste.
	17.06	Place and expose dental radiographic films or phosphors and digital sensors.
	17.07	Perform extraoral and carpal radiography as required for dental diagnostic procedures.
	17.08	Identify radiographic anatomical landmarks and pathologies.
	17.09	Mount radiographic surveys.
	17.10	Describe how to maintain unexposed film inventory and storage.
	17.11	Maintain digitally acquired radiographic images.
18.0		Identify properties and uses, and manipulate dental materials -- The student will be able to:

18.01	Identify properties and uses and manipulate gypsum.
18.02	Identify properties and uses and manipulate restorative materials.
18.03	Identify properties and uses and manipulate dental cements.
18.04	Place and remove matrices as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.05	Place and remove temporary restorations as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.06	Identify properties and uses and manipulate impression materials.
18.07	Make intraoral impressions as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.08	Identify properties and uses and manipulate acrylics and thermoplastics.
18.09	Identify properties and uses and manipulate waxes.
18.10	Perform dental laboratory procedures to include the fabrication of casts, custom trays, and temporary crowns and bridges.
18.11	Identify and manage hazardous dental materials and wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200) and Environmental Protection Agency regulations.
18.12	Employ measurements of time, temperature, distance, capacity, and mass/weight during the manipulation of dental materials.
19.0	Perform chairside assisting for general dentistry and specialty procedures. The student will be able to:
19.01	Describe procedures, equipment, materials, and instrumentation used in the dental specialties to include but not limited to periodontics, endodontics, pedodontics, oral surgery, orthodontics, and prosthodontics.
19.02	Assemble tray set-ups for general and specialty dental procedures.
19.03	Assist in general and specialty dental procedures.
19.04	Perform patient education to include pre- and post-operative instructions as prescribed by a dentist.
19.05	Describe procedures, equipment, and materials utilized in digital dentistry to include CAD/CAM Technology.

Course Number: DEA0728 Occupational Completion Point: C Dental Assisting 2 – 465 Hours – SOC Code 31-9091	
20.0	Describe principles and perform techniques of preventive dentistry -- The student will be able to:
20.01	Provide patient preventive education and oral hygiene instruction.
20.02	Prepare and set up for various preventive procedures.

20.03	Identify properties and uses of abrasive agents used to polish coronal surfaces and appliances.
20.04	Perform coronal polish and apply anticariogenic and desensitizing treatments as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.05	Clean and polish removable dental appliances.
20.06	Assist with and place dental dams as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.07	Apply dental sealants as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.08	Identify the elements of nutrition, basic food groups, and acceptable diets as recommended by the U.S. Department of Agriculture.
20.09	Identify dietary deficiencies and dietary practices that contribute to the manifestation of symptoms in the oral cavity.
20.10	Identify community dental resources and services available.
21.0	Perform general dental business office procedures -- The student will be able to:
21.01	Maintain appointment control.
21.02	Maintain an active recall system.
21.03	Prepare and maintain accurate patient records.
21.04	Prepare and maintain patient financial records, collect fees.
21.05	Prepare and maintain office financial records.
21.06	Prepare and maintain dental office inventory control and purchasing.
21.07	Demonstrate public relations responsibilities of the secretary/receptionist.
21.08	Demonstrate skills on office equipment.
21.09	Maintain the dental business office environment.
21.10	Receive and dismiss patients and visitors.
21.11	Demonstrate appropriate patient management/customer service skills.
21.12	Describe the effect of money management on practice goals.
22.0	Demonstrate professionalism as a dental team member in the clinical setting – The student will be able to:
22.01	Perform dental assisting duties, dental assisting expanded functions, and dental radiographic procedures in a clinical setting under the direct supervision of a licensed dentist.

22.02	Interact with a professional dental team in the delivery of patient services.
22.03	Utilize employability skills.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Assisting Technology and Management – ATD**
ATD CIP Number: **0351060108**
SOC Code(s): **31-9091**

When this program is offered at the college level, the following standards and benchmarks apply:

01.0	Demonstrate knowledge of the dental health care delivery system and dental health occupations – The student will be able to:
01.01	Identify the basic components of the dental health care delivery system including public, private, government and non-profit.
01.02	Describe the various types of dental health care providers and the range of services available.
01.03	Describe the composition and functions of a dental health care team
01.04	Identify the general roles and responsibilities of the individual members of the dental health care team.
01.05	Identify the roles and responsibilities of the consumer within the dental healthcare system.
01.06	Explain the cause and effects of factors that influence the current delivery system of dental healthcare.
01.07	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on the dental healthcare delivery system.
01.08	Discuss the history of dentistry.
02.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas – The student will be able to:
02.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
02.04	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writin
02.05	Recognize components of medical and dental terminology and abbreviations.
02.06	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relatio
02.07	Recognize the importance of patient education regarding dental and health care.

	02.08	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic religious groups.
	02.09	Identify psychological considerations influencing communication and behaviors.
03.0	Describe the legal and ethical responsibilities of the dental health care worker – The student will be able to:	
	03.01	Identify areas of Florida Statute 466 and Rule 64B5-16 FAC and Rule 64B5-25 FAC applicable to practice by the dental health worke
	03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03	Demonstrate procedures for accurate documentation and record keeping.
	03.04	Interpret healthcare facility policy and procedures.
	03.05	Explain the patients' "Bill of Rights."
	03.06	Identify and implement standards of the Health Insurance Portability and Accountability Act (HIPAA).
	03.07	Distinguish between express, implied and informed consent.
	03.08	Explain the laws governing harassment, labor and employment.
	03.09	Differentiate between legal and ethical issues in dentistry.
	03.10	Describe a Code of Ethics consistent with the dental assisting profession.
	03.11	Identify and compare personal, professional and organizational ethics.
	03.12	Recognize the limits of authority and responsibility of dental health care workers including legislated scope of practice.
	03.13	Recognize and report illegal and/or unethical practices of dental health care workers.
	03.14	Recognize and report abuse including domestic violence and neglect.
	03.15	Identify resources to victims of domestic violence.
	03.16	Explain risk management.
04.0	Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts – The student will be able to:	
	04.01	Develop a basic understanding of the structure and function of the body systems
	04.02	Identify common disorders related to each of the body systems.
	04.03	Explain basic concepts of positive self-image, wellness and stress.

	04.04 Develop a wellness and stress control plan that can be used in personal and professional life.
05.0	Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance – The student will be able to:
	05.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	05.02 Identify and describe methods in medical error reduction and prevention in the dental healthcare setting.
	05.03 Demonstrate an understanding of personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.04 Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
	05.05 Demonstrate procedures for the safe transport and transfer of patients.
	05.06 Describe fire safety, disaster and evacuation procedures.
	05.07 Explain emergency procedures to follow in response to workplace accidents.
	05.08 Demonstrate handwashing and the use of personal protective equipment used in dentistry.
06.0	Recognize and respond to emergency situations – The student will be able to:
	06.01 Take and record vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
07.0	Use information technology tools – The student will be able to:
	07.01 Define terms and demonstrate basic computer skills.
	07.01.01 Interpret information from electronic medical documents.
08.0	Explain the importance of employability skills – The student will be able to:
	08.01 Identify personal traits or attitudes desirable in a member of the healthcare team.
	08.02 Exemplify basic professional standards of dental healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	08.03 Maintain a career portfolio to document knowledge, skills, and experience.
	08.04 Write an appropriate resume.
	08.05 Conduct a job search and complete a job application form correctly.

	08.06	Demonstrate competence in job interview techniques.
	08.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	08.08	Examine licensing, certification, and industry credentialing requirements.
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS – The student will be able to:	
	09.01	Recognize emerging diseases and disorders.
	09.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	09.03	Identify "at risk" behaviors that promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	09.04	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	09.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	09.06	Demonstrate knowledge of the legal aspects of AIDS, including testing.
10.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives – The students will be able to:	
	10.01	Analyze attributes and attitudes of an effective leader.
	10.02	Recognize factors and situations that may lead to conflict.
	10.03	Demonstrate effective techniques for managing team conflict.
11.0	Use dental terminology -- The student will be able to:	
	11.01	Identify and define common dental terms.
	11.02	Demonstrate the use of proper dental terminology in the dental environment.
12.0	Identify structures and explain functions and pathologies of dental and general head and neck anatomy -- The student will be able to:	
	12.01	Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, lymph nodes, nerves, and blood vessels.
	12.02	Identify embryonic development of head, oral cavity, and teeth.
	12.03	Identify teeth and their landmarks, and the morphological characteristics of each individual tooth.
	12.04	Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.
	12.05	Recognize and describe oral pathological conditions, related to the teeth and their supporting structures.

	12.06	Recognize and describe developmental anomalies related to the teeth, face, and oral structures.
	12.07	Describe and differentiate between normal and malocclusion.
	12.08	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the oral cavity.
13.0	Identify principles of microbiology and disease prevention and perform infection control procedures -- The student will be able to:	
	13.01	Differentiate between pathogenic and non-pathogenic microorganisms.
	13.02	Describe pathogens and modes of disease transmission.
	13.03	Differentiate between aseptic and non-aseptic environments.
	13.04	Describe and apply methods of cleaning, disinfection, and sterilization.
	13.05	Identify chemicals and their uses for controlling the spread of disease in the dental environment
	13.06	Identify and practice the current CDC guidelines for infection control in dental healthcare settings.
	13.07	Describe the duties of the dental office safety coordinator
	13.08	Demonstrate compliance with the OSHA Bloodborne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.
	13.09	Identify and manage hazardous chemicals and biomedical wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200), 64E-16 F.A.C., and Environmental Protection Agency regulations.
	13.10	Define principles of infection control including standard and transmission based precautions.
	13.11	Demonstrate knowledge of dental asepsis
	13.12	Implement appropriate handwashing procedures and use of protective barriers
	13.13	Demonstrate knowledge of surgical asepsis and isolation.
14.0	Identify, describe, maintain and utilize dental instruments and equipment.--The student will be able to:	
	14.01	Identify various types, functions and operations of dental operatory and laboratory equipment.
	14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.
	14.03	Maintain dental operatory equipment and instruments.
	14.04	Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.
	14.05	Seat and dismiss patients.

	14.06 Operate oral evacuation devices and air/water syringe.
	14.07 Maintain a clear field of vision including isolation techniques.
	14.08 Perform a variety of instrument transfers to include four-handed dentistry.
	14.09 Utilize appropriate chairside assistant ergonomics.
15.0	Record patient assessment and treatment data -- The student will be able to:
	15.01 Take and record medical-dental histories.
	15.02 Record assessment of existing oral conditions.
	15.03 Record conditions diagnosed by the dentist.
	15.04 Record treatment-related data on the patient's clinical record
	15.05 Record treatment plan and treatment in patient's chart
	15.06 Perform a visual assessment of existing oral conditions.
	15.07 Distinguish between and report subjective and objective information.
	15.08 Report relevant information in order of occurrence.
16.0	Identify the functions of pharmacology and anesthesia as they relate to dentistry -- The student will be able to:
	16.01 Identify drug requirements, agencies, and regulations.
	16.02 Distinguish among the five schedules of controlled substances.
	16.03 Record a drug prescription in a patient's chart.
	16.04 Utilize ratios and proportional problems to calculate prescribed drug dosages.
	16.05 Identify drug actions, side effects, indications and contraindications; verify with Physician's Desk Reference or its equivalent.
	16.06 Identify common drugs used in dentistry.
	16.07 Prepare and apply topical anesthetic agent.
	16.08 Identify properties of anesthetics.
	16.09 Prepare syringes for the administration of local anesthetics.

	16.10 Monitor and identify precautions in the use of nitrous oxide-oxygen conscious sedation.
	16.11 Calculate the percentage of nitrous oxide-oxygen delivered during a conscious sedation procedure.
	16.12 Identify drugs and agents used for treating dental-related infection
	16.13 Identify and respond to dental office emergencies
17.0	Identify and perform dental and carpal radiographic procedures -- The student will be able to:
	17.01 Describe history, physics and biological effects of ionizing radiation.
	17.02 Identify parts of the X-ray machine including accessories.
	17.03 Demonstrate radiologic health protection techniques.
	17.04 Describe dark room/processing procedures, mix solutions.
	17.05 Describe the proper disposal of hazardous radiographic waste.
	17.06 Place and expose dental radiographic films or phosphors and digital sensors.
	17.07 Perform extraoral and carpal radiography as required for dental diagnostic procedures.
	17.08 Identify radiographic anatomical landmarks and pathologies.
	17.09 Mount radiographic surveys.
	17.10 Describe how to maintain unexposed film inventory and storage.
	17.11 Maintain digitally acquired radiographic images.
18.0	Identify properties and uses, and manipulate dental materials -- The student will be able to:
	18.01 Identify properties and uses and manipulate gypsum.
	18.02 Identify properties and uses and manipulate restorative materials.
	18.03 Identify properties and uses and manipulate dental cements.
	18.04 Place and remove matrices as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.05 Place and remove temporary restorations as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.06 Identify properties and uses and manipulate impression materials.

	18.07	Make intraoral impressions as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.08	Identify properties and uses and manipulate acrylics and thermoplastics.
	18.09	Identify properties and uses and manipulate waxes.
	18.10	Perform dental laboratory procedures to include the fabrication of casts, custom trays, and temporary crowns and bridges.
	18.11	Identify and manage hazardous dental materials and wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200) and Environmental Protection Agency regulations.
	18.12	Employ measurements of time, temperature, distance, capacity, and mass/weight during the manipulation of dental materials.
19.0	Perform chairside assisting for general dentistry and specialty procedures. The student will be able to:	
	19.01	Describe procedures, equipment, materials, and instrumentation used in the dental specialties to include but not limited to periodontics, endodontics, pedodontics, oral surgery, orthodontics, and prosthodontics.
	19.02	Assemble tray set-ups for general and specialty dental procedures.
	19.03	Assist in general and specialty dental procedures.
	19.04	Perform patient education to include pre- and post-operative instructions as prescribed by a dentist.
	19.05	Describe procedures, equipment, and materials utilized in digital dentistry to include CAD/CAM Technology.
20.0	Describe principles and perform techniques of preventive dentistry -- The student will be able to:	
	20.01	Provide patient preventive education and oral hygiene instruction.
	20.02	Prepare and set up for various preventive procedures.
	20.03	Identify properties and uses of abrasive agents used to polish coronal surfaces and appliances.
	20.04	Perform coronal polish and apply anticariogenic and desensitizing treatments as permitted by Florida Statute and Florida Board of Dentistry Rule.
	20.05	Clean and polish removable dental appliances.
	20.06	Assist with and place dental dams as permitted by Florida Statute and Florida Board of Dentistry Rule.
	20.07	Apply dental sealants as permitted by Florida Statute and Florida Board of Dentistry Rule.
	20.08	Identify the elements of nutrition, basic food groups, and acceptable diets as recommended by the U.S. Department of Agriculture.
	20.09	Identify dietary deficiencies and dietary practices that contribute to the manifestation of symptoms in the oral cavity.
	20.10	Identify community dental resources and services available.

21.0	Perform general dental business office procedures -- The student will be able to:	
	21.01	Maintain appointment control.
	21.02	Maintain an active recall system.
	21.03	Prepare and maintain accurate patient records.
	21.04	Prepare and maintain patient financial records, collect fees.
	21.05	Prepare and maintain office financial records.
	21.06	Prepare and maintain dental office inventory control and purchasing.
	21.07	Demonstrate public relations responsibilities of the secretary/receptionist.
	21.08	Demonstrate skills on office equipment.
	21.09	Maintain the dental business office environment.
	21.10	Receive and dismiss patients and visitors.
	21.11	Demonstrate appropriate patient management/customer service skills.
	21.12	Describe the effect of money management on practice goals.
22.0	Demonstrate professionalism as a dental team member in the clinical setting – The student will be able to:	
	22.01.01	Perform dental assisting duties, dental assisting expanded functions, and dental radiographic procedures in a clinical setting under the direct supervision of a licensed dentist.
	22.01.02	Interact with a professional dental team in the delivery of patient services.
	22.01.03	Utilize employability skills.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Field Internship Activities: Clinical experiences are integrated with the didactic portion of this program. Clinical experience assisting a dentist must be an integral part of the educational program designed to perfect students' competence in performing dental assisting functions, rather than to provide basic instruction. The major portion of the students' time in clinical assignments must be spent assisting with or participating in patient care. Prior to clinical assignments, students demonstrate minimum competence in performing the procedures which they will be expected to perform in their clinical experience.

Special Notes

Dental assisting programs accredited by the American Dental Association Commission on Dental Accreditation are required to implement enrollment and admissions criteria that include the selection of adult students with a high school diploma, its equivalent, or an advanced degree.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the goals of TECH PREP and is based on the model developed by the Allied Health Articulation Task Force.

This program should meet the most current edition of the American Dental Association Accreditation Standards for Dental Assisting Education Programs. For further information, contact: Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, Illinois 60611.

For Florida information contact the Florida Agency for Health Care Administration (AHCA), Division of Health Quality Assurance, Board of Dentistry, 4052 Bald Cypress Way, Tallahassee, FL 32399, 850/245-4161.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Pursuant to 466.024 F.S., 64B5-16.002 F.A.C. and 64B5-9.011 F.A.C., completers of the dental assisting program may be awarded a certificate verifying formal training which is required for the performance of certain remediable tasks (also known as expanded functions.)

Students should be encouraged to become members and participate in the activities of the professional organization: The American Dental Assistants Association.

Completers of the dental assisting program should be encouraged to take the Dental Assisting National Board (DANB) Certified Dental Assistant (CDA) exam. DANB is recognized by the American Dental Association as the national certification board for dental assistants.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C. the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematic 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 50 credits. When offered at a technical center the standard length of this program is 1230 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Laboratory Technology and Management**
Career Cluster: **Health Science**

AAS	
CIP Number	0351060301
Program Type	College Credit
Standard Length	68 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11-9111 Medical and Health Services Managers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The content includes but is not limited to, general studies, physical sciences, dental sciences, dental laboratory techniques, dental laboratory management and business principles, computer applications in the dental laboratory, leadership and communications skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 68 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician
02.0 Practice quality assurance, safety and infection control.
03.0 Adhere to legal and ethical principles related to the practice of dental laboratory technology.
04.0 Demonstrate knowledge of effective business management techniques.
05.0 Demonstrate knowledge of dental sciences.
06.0 Demonstrate knowledge of physical and mechanical properties of metals and alloys.
07.0 Manufacture various methods of complete denture construction.
08.0 Manufacture complete denture construction on practical work received from dental clinic.
09.0 Manufacture and identify components of a removable partial denture.
10.0 Manufacture orthodontic and pedodontic appliances.
11.0 Demonstrate knowledge and skills required to manufacture single and multi-unit restorations.
12.0 Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.
13.0 Manufacture restorations in the student's specialty for patients who receive treatment at the dental research clinic.
14.0 Demonstrate knowledge of basic concepts of porcelain-fused-to-metal (PFM) techniques.
15.0 Demonstrate proper design and fabrication for individual and three-unit anterior bridge for pressable system restorations.
16.0 Demonstrate proper design and fabrication for all Ceramics Restorations using Refractory System.
17.0 Demonstrated knowledge of the Standard Components for Implant Systems.
18.0 Demonstrate proper design and fabrication for Implants System.
19.0 Describe the Standard Components and fabrication of semi precision attachments.
20.0 Demonstrate proper design and fabrication of Hybrid Restoration.
21.0 Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.
22.0 Perform select proficiency in fixed restorative techniques in chosen areas of specialization.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Laboratory Technology and Management**
CIP Number: **0351060301**
Program Length: **68 credit hours**
SOC Code(s): **11-9111**

The AAS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS. At the completion of this program, the student will be able to:	
01.0	Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.--The student will be able to:
01.01	Identify structures and functions of head and neck anatomy.
01.02	Identify embryonic development of head, oral cavity and individual teeth.
01.03	Identify each tooth and its landmarks.
02.0	Practice quality assurance, safety and infection control.--The student will be able to:
02.01	Practice safety in accordance with institutional policy.
02.02	Identify documentation procedures necessary to comply with state laws.
02.03	Demonstrate knowledge of the dental laboratory technician's role in providing quality assurance in laboratory procedures, reporting, and use and maintenance of equipment.
02.04	Use appropriate dental terminology and abbreviations.
02.05	Demonstrate knowledge, principles, and methods of disease transmission and prevention as related to dental prostheses.
02.06	Demonstrate knowledge of infection control in dental laboratories in accordance with Center for Disease Control (CDC)/OSHA guidelines.
02.07	Establish an infection control procedures policy for the dental laboratory.
03.0	Adhere to legal and ethical principles related to the practice of dental laboratory technology.--The student will be able to:
03.01	Demonstrate knowledge of the importance of observing the doctor/technician relationship.
03.02	Demonstrate knowledge of state law governing the practice of Dental Laboratory Technology.

04.0	Demonstrate knowledge of effective business management techniques.--The student will be able to:
04.01	Demonstrate knowledge and use of an office/laboratory procedure manual.
04.02	Demonstrate knowledge and use of business finance and operating expenses.
04.03	Demonstrate knowledge of pay scale and benefit program for employees and a bookkeeping system.
04.04	Demonstrate knowledge of tax forms, payroll records, insurance needs and inventory needs.
04.05	Demonstrate knowledge of employee hiring orientation.
04.06	Demonstrate knowledge of computer applications in the dental laboratory.
05.0	Demonstrate knowledge of dental sciences--The student will be able to:
05.01	Demonstrate knowledge of physical properties, use and manipulation of dental materials.
05.02	Demonstrate knowledge of the dynamics of occlusion.
05.03	Demonstrate problem-solving skills as related to dental materials.
06.0	Demonstrate knowledge of physical and mechanical properties of metals and alloys.--The student will be able to:
06.01	Identify how dental materials are affected by changes in the physical and mechanical properties of the materials.
06.02	List characteristics of a metal.
06.03	Identify the mechanical properties of cast alloys and cold worked metal, strain hardening, recrystallization, and grain growth.
06.04	Identify the metals and percentages in all types of dental casting gold alloys and how different alloys of dental gold casting affect the dental restorations.
06.05	Identify heat treatment techniques for dental casting gold alloys.
06.06	List the types, composition and uses of dental solders.
06.07	Identify composition and uses of dental fluxes and pickling agents.
06.08	Identify composition, physical and mechanical properties and heat treatment techniques for base metal alloys, chrome cobalt and nickel chrome.
06.09	Identify types of burs used in dentistry and the mechanics of cutting.
06.10	Identify abrasion and polishing dentifrices used in the dental lab and how each affects the dental restoration.
07.0	Manufacture various methods of complete denture construction.--The student will be able to:

07.01	Make casts by pouring all types of impression material to include dentulous and edentulous impressions.
07.02	Construct base plates by either the light cure and/ or thermoforming vacuum press.
07.03	Construct wax occlusion rims to exact specifications.
07.04	Articulate cast upon which complete dentures are to be made on 1 plain line and semi adjustable articulators.
07.05	Set-up and wax-up complete upper and lower dentures.
07.06	Manufacture temporary all-acrylic removable partial dentures.
07.07	Repair any and all types of dentures.
07.08	Manufacture immediate complete dentures complete with surgical tray.
07.09	Relining complete dentures (upper and lower).
07.10	Perform selective milling grinding in the finishing of complete dentures.
08.0	Manufacture complete denture construction on practical work received from dental clinic. --The student will be able to:
08.01	Make stone or plaster casts by pouring all types of impressions, both dentulous and semi-edentulous impressions, be it alginate, rubber base or silicone.
08.02	Construct a light cure or thermoformed vacuum base plate and stabilized tray if so ordered on the prescription by the doctor.
08.03	Construct wax occlusal rim to exact measurements.
08.04	Be able to articulate casts on a plain line or semi-adjustable articulator.
08.05	Set-up and wax-up cases.
08.06	Invest, pack, cure, deflask, finish, and polish.
08.07	Repair dentures, flange, adding teeth or clasp if needed to denture.
08.08	Reline any upper or lower denture.
09.0	Manufacture and identify components of a removable partial denture. --The student will be able to:
09.01	Survey and design maxillary and mandibular removable partial denture framework.
09.02	Block out and duplicate master cast.
09.03	Identify, explain, and use a variety of clasps.

	09.04 Wax-up, sprue, invest, burnout and cast non-precious alloy frames.
	09.05 Finish and polish metal frames and arrange artificial teeth.
	09.06 Demonstrate the bending of wrought wire and perform various repairs.
10.0	Manufacture orthodontic and pedodontic appliances. --The student will be able to:
	10.01 Identify and describe various types of malocclusion as presented in the course.
	10.02 Identify and know the treatment objectives of the orthodontic appliances presented in the course.
	10.03 Interpret work authorization for orthodontic appliances.
	10.04 Complete the assigned laboratory exercises in the course to the standard of clinically acceptable quality.
11.0	Demonstrate knowledge and skills required to manufacture single and multi-unit restorations.--The student will be able to:
	11.01 Pour impression to make casts with removable dies.
	11.02 Articulate casts on a semi-adjustable articulator and use various types of articulation systems.
	11.03 Prepare dies for waxing.
	11.04 Manufacture wax patterns for inlays, onlays, full crowns and multi-unit restorations.
	11.05 Demonstrate proper techniques in spruing, investing and casting.
	11.06 Finish all metal cast restorations.
	11.07 Demonstrate a proper diagnostic wax-up for single and multi-unit restorations.
	11.08 Demonstrate the fabrication of provisional restoration using thermoforming vacuum or putty matrix methods.
	11.09 Construct a single and multi-unit restoration.
	11.10 Finish provisional restoration in an acceptable manner.
	11.11 Construct a post and core with a final restoration.
12.0	Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.--The student will be able to:
	12.01 Identify fundamental occlusion patterning associated with the basic mandibular positions.
	12.02 Identify Dr. Angle’s occlusal classifications.

	12.03 Identify cusp types from the functional point of view.
	12.04 Identify the incisal edges and cusps tips of maxillary teeth to mandibular teeth in centric occlusion.
	12.05 Demonstrate the correlation between maxillary and mandibular cusps.
	12.06 Demonstrate an understanding of mandibular movements.
	12.07 Demonstrate an understanding of functional occlusion.
13.0	Manufacture restorations in the students specialty for patients who receive treatment at the dental research clinic.--The student will be able to:
	13.01 Complete denture set-up, wax-up and finish.
	13.02 Perform basic complete denture relines.
	13.03 Demonstrate knowledge of denture repairs.
	13.04 Removable partial denture wax-up, casting and finish.
	13.05 Manufacture a Hawley appliance.
	13.06 Manufacture space maintainer.
	13.07 Fabricate restorations to include: inlay, onlays, full crowns, bridges Porcelain Fused to Metal (PFM) and all ceramic restorations.
	13.08 Manufacture prostheses for patients currently under treatment or from actual casts or impressions and occlusal records from previously fabricated prosthesis.
14.0	Demonstrate knowledge of basic concepts of porcelain-fused-to-metal (PFM) techniques.--The student will be able to:
	14.01 Describe the components of dental porcelain.
	14.02 Describe the early porcelain-fused-to-metal systems.
	14.03 Identify various alloys used in the fabrication of PFM restorations.
	14.04 Identify and explain the uses of opaque, body, incisal, modifier, glaze and stain porcelains.
	14.05 Demonstrate proper metal design for individual and multiple-unit PFM restorations.
	14.06 Demonstrate proper spruing, investing, burnout, casting and metal finishing techniques.
	14.07 Demonstrate proper and accurate pre-soldering skills.
	14.08 Demonstrate proper and accurate post-soldering skills.

	14.09 Describe the concept of degassing and metal porcelain bonding.	
	14.10 Demonstrate approved techniques for opaque, body and incisal porcelain application.	
	14.11 Identify various porcelain firing cycles.	
	14.12 Demonstrate approved techniques for contouring and glazing porcelain.	
	14.13 Describe the basic concepts of staining, the color wheel and hue, chroma and value.	
	14.14 Demonstrate and understanding of porcelain furnace calibration and maintenance.	
15.0	Demonstrate proper design and fabrication for individual and three-unit anterior bridge for pressable system restorations. -- The student will be able to:	
	15.01 Demonstrate proper wax-up, spruing and investing.	
	15.02 Demonstrate proper burnout and pressing.	
	15.03 Demonstrate proper recovery/ divesting of a pressed crown and bridge.	
	15.04 Demonstrate proper finishing techniques of a pressed crown and bridge.	
16.0	Demonstrate proper design and fabrication for all Ceramics Restorations using Refractory System. -- The student will be able to:	
	16.01 Pour impression to make casts with removable dies.	
	16.02 Fabrication of Inlays, Onlays and Veneers using the Refractory System.	
17.0	Demonstrated knowledge of the Standard Components for Implant Systems. -- The student will be able to:	
	17.01 List the standard components of an implant system including:	
	17.01.01	Implant / fixture
	17.01.02	Healing Abutment Cover Screw/ Screw
	17.01.03	Abutment
	17.01.04	Temporary Components
	17.01.05	Angulated Abutment
	17.01.06	Impression Coping
	17.01.07	Open tray/closed tray

	17.01.08	Abutment replicas
	17.01.09	Analogue/ Implant Replica
18.0	Demonstrate proper design and fabrication for Implants System. --The student will be able to:	
	18.01	Demonstrate the fabrication of a Custom Tray for an Implant Case.
	18.02	Demonstrate the fabrication of a Surgical Guide Template.
	18.03	Demonstrate the pouring of an impression and fabricate a master cast with an abutment replica in place.
	18.04	Apply soft tissue silicone material around the abutment replica.
	18.05	Screw/Cement-Retained, Castable Substructure.
	18.06	Demonstrate proper substructure design: waxing, spruing, investing, burnout, casting and metal finishing techniques for Implant Systems.
	18.07	Demonstrate proper design and fabrication of a porcelain fused to metal crown over an implant abutment.
	18.08	Demonstrate approved techniques for opaque, body and incisal porcelain application for Implant Systems.
19.0	Describe the Standard Components and fabrication of semi precision attachments. -- The student will be able to:	
	19.01	Explain the uses of attachments and stress breakers.
	19.02	Define and explain basic attachments groups and impression needed.
	19.03	Attachment Selection.
	19.04	Demonstrate proper design and fabrication of a Semi Precision Attachment.
	19.05	Explain the advantages and disadvantages of attachments.
	19.06	Semi Precision Attachments versus Precision Attachments.
20.0	Demonstrate proper design and fabrication of Hybrid Restoration. -- The student will be able to:	
	20.01	Fabricate a Bar and Clip Retained Overdenture.
	20.02	Fabricate Custom Tray and Master Cast.
	20.03	Fabricate Baseplate and Occlusion Rims.
	20.04	Articulation and Trial Denture.

	20.05 Fabricate a Bar.
	20.06 Demonstrate proper design and fabrication of a Denture over Implants with a Bar.
21.0	Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.--The student will be able to:
	21.01 Survey and design a maxillary and mandibular removable partial denture.
	21.02 Identify and explain the use of wax in a wide variety of clasps.
	21.03 Duplicate master casts.
	21.04 Sprue and invest waxed partial denture castings.
	21.05 Finish and polish a removable partial denture casting.
22.0	Perform select proficiency in fixed restorative techniques in chosen areas of specialization.--The student will be able to:
	22.01 Manufacture fixed restorations more quickly and with increased skill.
	22.02 Demonstrate a thorough understanding of the procedures involved in the fabrication of fixed restorations.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Laboratory activities are integrated with the didactic portion of this program. Students perform representative tasks in the manufacture of custom made dental devices and become involved in the dental health team through first hand observation in clinical procedures as they relate to laboratory techniques.

Special Notes

The program is designed to prepare students for entry level employment as dental laboratory technicians, dental laboratory managers, dental laboratory owners, marketing/sales personnel of dental products or SOC Code 11-9111 (Medical and Health Services Managers) or to provide supplemental training for persons previously or currently employed in this occupation. The Health Careers Core must be taken by all students (secondary, postsecondary adult and postsecondary vocational) planning to complete any Health Occupations program. Once successfully completed, the core does not need to be repeated at any instructional level.

Reinforcement of basic skills in English, mathematics and science appropriate for the job preparatory programs occurs through college level instruction, applied laboratory procedures or practice, clinical observation and involvement in the dental health care delivery team concept.

The program will include theoretical aspects of subjects as well as the practical applications. The theoretical aspects of the curriculum will provide content necessary for students to make judgments regarding the procedures they are expected to perform.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association. Students should be prepared to take the recognized graduate examination offered by the National Board for Certification in Dental Laboratory technology, Inc.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful

completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Health Care Services**
Career Cluster: **Health Science**

CCC	
CIP Number	0351070201
Program Type	College Credit Certificate (CCC)
Program Length	32 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11-9111 Medical and Health Services Managers

Purpose

This certificate program is part of the Health Services Management (60) AS degree program (1351070101).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as Health Care Services supervisors in medicine and health service management. SOC Code 11-9111 (Medical and Health Services Managers). This program is for individuals who are currently employed in the health field or seeking employment in mid-management positions in the health field.

The content includes but is not limited to leadership and supervisory skills, laws and regulations pertaining to health care facilities and agencies, organizational structure of health care facilities, budgeting and fiscal management, making employee assignments and scheduling, legal aspects of health care, health and safety including CPR and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Recognize and practice safety and security procedures.
05.0 Demonstrate an understanding of information technology applications in healthcare.
06.0 Demonstrate employability skills.
07.0 Basic knowledge of medical language, anatomy and physiology, disease processes and pharmacology.
08.0 Demonstrate knowledge of materials and supplies needed to care in healthcare and how to obtain them in various healthcare settings
09.0 Demonstrate leadership and administrative skills basic to management in any health care facility.
10.0 Interpret federal, state and local laws as they apply to health care facilities.
11.0 Demonstrate knowledge of operational and organizational structures of health care facilities.
12.0 Demonstrate knowledge of appropriate human resource management in healthcare
13.0 Identify and apply basic knowledge of departmental capital and operational budgets.
14.0 Demonstrate knowledge of reimbursement systems and methodologies

Florida Department of Education
Student Performance Standards

Program Title: **Health Care Services**
CIP Number: **0351070201**
Program Length: **32 credit hours**
SOC Code(s): **11-9111**

This certificate program is part of the Health Services Management (60) AS degree program (1351070101). At the completion of this program, the student will be able to:

Health Care Management Foundations (1-9)

01.0	Demonstrate knowledge of the health care delivery system and health occupations. – The student will be able to:	
	01.01	Identify the basic components of the health care delivery system including public, private, government and non-profit.
	01.02	Identify types of healthcare settings.
	01.03	Identify the perspective of the health care consumer regarding healthcare.
	01.04	Describe the composition and functions of a systemic healthcare team including those not based in the health care facility (e.g. medical device rep. and insurance claims adjuster).
	01.05	Identify characteristics of effective teams.
	01.06	Recognize methods for building positive team relationships.
	01.07	Analyze attributes and attitudes of an effective leader.
	01.08	Recognize factors and situations that may lead to conflict.
	01.09	Demonstrate effective techniques for managing team conflict.
	01.10	Explain both the positive and negative impacts of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively. – The student will be able to:	
	02.01	Develop fundamental speaking and active listening skills.
	02.02	Develop essential observational skills.
	02.03	Distinguish the differences between effective and ineffective communication practices.

	02.04	Recognize communication styles and barriers in both yourself and others and adjust accordingly for optimum application.
	02.05	Use factual data to produce and deliver credible and understandable reports.
	02.06	Compose written communication for various purposes using correct spelling, grammar, formatting and confidentiality.
	02.07	Demonstrate an understanding of appropriate situational communication by considering diverse cultures and lifestyles, medical conditions and generations.
03.0	Demonstrate legal and ethical responsibilities. – The student will be able to:	
	03.01	Discuss practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.02	Identify the roles and responsibilities of the consumer within the healthcare delivery system.
	03.03	Explain the “Patient’s Bill of Rights”.
	03.04	Identify the intent, application and violations of the Health insurance Portability and Accountability Act (HIPAA).
	03.05	Describe legal documents that allow patients and their guardians to document end-of-life care decisions ahead of time.
	03.06	Describe informed consent including scenarios when it is not possible or granted.
	03.07	Differentiate between legal and ethical issues in healthcare.
	03.08	Describe key components of personal, professional, and organizational ethics.
	03.09	Recognize the limits of authority and responsibility of health care workers including legislated scope of practice.
	03.10	Discuss what constitutes illegal and/or unethical practices of healthcare workers and the protocols for reporting.
04.0	Recognize and practice safety and security procedures. – The student will be able to:	
	04.01	Recognize safe and unsafe working conditions and the necessary protocol to report safety hazards.
	04.02	Explain how medical errors might occur and describe ways to prevent or mitigate such errors.
	04.03	Describe national personal safety standards advocated by leading healthcare agencies.
	04.04	Discuss appropriate regulatory and accrediting agency patient safety guidelines.
	04.05	Demonstrate an understanding of roles and responsibilities during manmade and natural disasters.
	04.06	Understand benefits and correct method to put on and disrobe from personal protective equipment (PPE).
	04.07	Identify risk management activities.

05.0	Demonstrate an understanding of information technology applications in healthcare. – The student will be able to:
05.01	Demonstrate the ability to use a computer to perform business practices such as word processing, spreadsheets, presentations, and database management.
05.02	Recognize current and changing technology applications in healthcare.
05.03	Discuss methods of communication to access and distribute data including patient portal, electronic messaging, Continuity of Care Documents (CCD) and Health Information Exchanges (HIE).
05.04	Interpret technological capabilities and challenges of Electronic Health Records (EHR) and applications in healthcare.
05.05	Demonstrate how health information is used for institutional and patient strategic planning and outcome assessment and governed quality measures.
05.06	Identify protected Patient Health Information (PHI).
05.07	Identify methods for preventing PHI breaches and technology security.
05.08	Explain Meaningful Use as it relates to privacy, security and access of patients' records.
06.0	Demonstrate employability skills. – The student will be able to:
06.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
06.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, and behavior (i.e. telephone & email etiquette, social media, courtesy and self-introductions).
06.03	Identify necessary documents to compete a job application.
06.04	Write an effective resume.
06.05	Conduct a job search including levels of education, credentialing requirements employment opportunities, workplace environments and career growth potential.
06.06	Identify skills for completing and conducting an interview.
07.0	Demonstrate basic knowledge of medical language, anatomy and physiology, and disease processes. – The student will be able to:
07.01	Use appropriate medical terminology and abbreviations.
07.02	Demonstrate knowledge of clinical terminology as relates to healthcare management.
07.03	Describe the structure and function of different body systems.
07.04	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body.
07.05	Demonstrate an understanding of basic discharge and transfer procedures.
08.0	Demonstrate knowledge of materials and supplies needed in healthcare and how to obtain them in various healthcare settings. –

	The student will be able to:
	08.01 Prepare purchase orders, being mindful of current financial status of institution.
	08.02 Shop for quality, price, and quantity.
	08.03 Demonstrate a working knowledge of an effective inventory management system.
	08.04 Identify accounts payable practices.
	08.05 Identify steps to investigate needed supplies for adding a healthcare service and determining impacts to profit and loss.
Health Services Management (9-15)	
09.0	Demonstrate leadership and administrative skills basic to management in any health care facility. – The student will be able to:
	09.01 Identify current trends and perspectives related to the management of health care organizations and the means by which the application of sound management principles and behavior can facilitate change.
	09.02 Interpret managerial principles, practices and processes to the delivery of health care.
	09.03 Identify the role, responsibilities and parameters for the various levels of management within the health care organizations.
	09.04 State the control processes and techniques used to ensure that the objectives, strategies and policies of health care delivery are achieved effectively and efficiently.
	09.05 Relate the various aspects of organizational dynamics (decision making, motivation, leadership, and communication) to the needs and problems of health care organizations.
	09.06 Relate personnel administration practices to the total scope of labor relations, including manpower acquisition, maintenance, and utilization.
	09.07 Conduct needs analysis to identify and prioritize workflow requirements.
	09.08 Identify methods to monitor internal and external customer satisfaction and implement improvements.
10.0	Interpret federal, state and local laws as they apply to health care facilities. – The student will be able to:
	10.01 Cite federal, state and local institutional requirements.
	10.02 List required standards and procedures for facility and staff.
	10.03 Identify mandatory requirements regarding environmental health and safety standards.
	10.04 Discuss the impact of legislative changes on health care facilities.
	10.05 Identify the Florida Statutes as applied to health care facilities.
11.0	Demonstrate knowledge of operational and organizational structures of health care facilities. – The student will be able to:

11.01	Describe the functions and standards of departments in health care facilities.
11.02	Distinguish similarities and differences between administrative roles and responsibilities in different types of health care agencies.
11.03	Describe principles and philosophies of health care agencies delivering long-term, acute and other types of health care services and their individual role in the overall healthcare delivery system.
11.04	Identify ancillary services that support health care agencies.
11.05	Compare and contrast different healthcare setting operation structures.
12.0	Demonstrate knowledge of appropriate human resource management in healthcare – The student will be able to:
12.01	Prepare job descriptions.
12.02	Explain the laws governing harassment, labor and employment.
12.03	Illustrate employee satisfaction measurement and improvement techniques.
12.04	Demonstrate the understanding of the legal aspects of human resource management.
12.05	Prepare policy and procedure manuals.
12.06	Explain the components of an effective staff meeting.
12.07	Identify recruitment and retention strategies.
12.08	Demonstrate key components of a performance evaluation.
12.09	Identify methods to assess and develop orientation and training programs for personnel.
12.10	Identify methods to enhance teamwork, collaboration and personnel empowerment.
13.0	Identify and apply basic knowledge of departmental capital and operational budgets. – The student will be able to:
13.01	Describe the budget process and operational budget format.
13.02	Explain a capital budget justification format.
13.03	Delegate capital budget preparation to key managers.
13.04	Analyze and approve appropriate capital budget items.
13.05	Analyze and approve appropriate financial levels in each operational budget.
14.0	Demonstrate knowledge of volume and growth, reimbursement systems and methodologies– The student will be able to:

14.01	Identify common methods, benefits and challenges of payment for healthcare services.
14.02	Demonstrate knowledge of a patient classification system within a health care facility.
14.03	Identify billing and insurance terminology.
14.04	Demonstrate understanding of the process of utilization review.
14.05	Demonstrate knowledge of accounts receivable system that monitors and optimizes reimbursement.
14.06	Demonstrate knowledge of third party reimbursements including Center for Medicare/Medicaid Services (CMS) rulings and precedence to other payors.
14.07	Demonstrate basic knowledge of the procedures and purposes of medical documentation, medical billing and coding.
14.08	Demonstrate knowledge of the revenue cycle.
14.09	Explain government impacts to reimbursement (i.e. value-based payment models, government incentive programs, self-pay models, and HCAPS scores).
14.10	Identify volume and growth strategies for healthcare agencies.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

It is strongly recommended that hands-on practical experience be an integral part of the program.

Special Notes

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The Health Care Services Program, with emphasis on middle management skills, is a complex program requiring current knowledge in both health care and legislation affecting the health care delivery system. Instruction disciplines can come from a variety of fields.

To augment the program areas, community leaders possessing expertise in specific health care areas may be utilized.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Records Transcribing/Healthcare Documentation -ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	H170508
CIP Number	0351070706	0351070704
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	33 credit hours	1200 clock hours
CTSO	HOSA: Future Health Professionals	
SOC Codes (all applicable)	29-2099 Health Technologists and Technicians, All Other 31-9094 Medical Transcriptionists	
Basic Skills Level:	Mathematics 10 Reading: 11 Language: 11	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare student for employment as medical transcribers SOC 31-9094 Medical Transcriptionists.

The content includes but is not limited to medical terminology, anatomy and physiology, grammar and punctuation, health care delivery systems, health information services, ethical and legal responsibilities, safety/security procedures, word processing/ transcription skills and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 2 occupational completion points and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	HIM0009	Introduction to Health Information Technology *	90 hours	29-2099
B	HIM0002	Medical Transcriber-ATD 1	370 hours	31-9094
	HIM0083	Medical Transcriber-ATD 2	370 hours	
	HIM0084	Medical Transcriber-ATD 3	370 hours	

*** Students who have taken the Health core (HSC0003) previously as part of this program are not required to take HIM0009 to complete the program. These students should continue on to OCP B. Beginning in 2011-12 new students should be enrolled in HIM0009 as the first course in the program.**

College Credit

When offered at the college level, this ATD program is part of the Health Information Technology AS degree (1351070700) and has a program length of 33 credits.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Utilize appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Use appropriate medical and scientific terminology.
14.0 Apply concepts of disease, diagnosis and treatment of the human body.
15.0 Apply rules of English grammar and punctuation.
16.0 Utilize medical references.
17.0 Apply healthcare documentation technology.
18.0 Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist.
19.0 Explain the role of health information services.
20.0 Demonstrate ethical and legal principles with regard to the use of healthcare documentation.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Records Transcribing/Healthcare Documentation -ATD**
PSAV Number: **H170508**

When this program is offered at the PSAV level, the following organization of courses, standards, and benchmarks apply.

Course Number: HIM0009 **Occupational Completion Point: A** **Introduction to Health Information Technology – 90 Hours – SOC Code 29-2099**	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic

	and religious groups.
	02.11 Recognize elements of communication using a sender-receiver model.
	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:

	08.01	Describe the code of ethics consistent with healthcare occupations.
	08.02	Recognize ethical issues related to health information technology.
	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.

11.03	Demonstrate ability to connect to the internet.
11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.
11.05	Demonstrate ability to send and receive e-mail.
11.06	Demonstrate ability to send messages with attached files.
11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:
12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
12.03	Identify documents that may be required when applying for a job.
12.04	Write an appropriate resume.
12.05	Conduct a job search.
12.06	Complete a job application form correctly.
12.07	Demonstrate competence in job interview techniques.
12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
12.09	Identify acceptable work habits.
12.10	Recognize appropriate affective/professional behavior.
12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
Course Number: HIM0002 Occupational Completion Point: B Medical Transcriber- ATD 1 – 370 Hours – SOC Code 31-9094	
13.0	Use appropriate medical and scientific terminology–The student will be able to:
13.01	Spell, define and pronounce medical words and their components.

	13.02 Define and use medical abbreviations. brief forms, acronyms, eponyms, and foreign words and phrases commonly used in healthcare practice.
	13.03 Identify and use the medical terminology related to the structure and function of the human body.
	13.04 Identify, pronounce, spell, and define pharmacological terminology.
	13.05 Students will distinguish between or among medical homophones (soundalikes), commonly confused medical terms, and synonyms.
14.0	Apply concepts of disease, diagnosis and treatment of the human body. –The student will be able to:
	14.01 Identify and explain structure and function of the human body in health and in disease.
	14.02 Identify disorders and treatments of the human body.
	14.03 Identify and explain electrodiagnostic, imaging, laboratory, and pathology procedures and their application to diseases and disorders.
	14.04 Demonstrate knowledge of pharmacology to include indications and contraindications, dosage, methods of administration, interactions and side effects.
	14.05 Categorize surgical procedures and other interventional diagnostic and treatment modalities by specialty, indications or related diagnoses, technique, and typical findings.
15.0	Apply rules of English grammar and punctuation.–The student will be able to:
	15.01 Recognize and use the principal parts of speech.
	15.02 Recognize and use punctuation marks.
	15.03 Apply rules of numerical expression.
	15.04 Apply rules of capitalization.
	15.05 Define and use abbreviations.
	15.06 Demonstrate ability to spell words in common usage.
	15.07 Evaluate and use reliable resources for research and practice.
	15.08 Apply correct medical style as defined by authorities (i.e. AHDI Book of style, AMA Manual of Style).
	15.09 Edit and proofread healthcare documentation.
	15.10 Recognize and use report formats.
16.0	Utilize medical references–The student will be able to:
	16.01 Use medical dictionaries and specialty word books.

16.02	Identify and use trade, generic and chemical drug names utilizing reference sources.
16.03	Identify and use diagnostic test terminology.
16.04	Access, use and evaluate the reliability of resources located on the internet.
Course Number: HIM0083 Occupational Completion Point: B Medical Transcriber-ATD 2 – 370 Hours – SOC Code 31-9094	
17.0	Apply healthcare documentation technology.–The student will be able to:
17.01	Demonstrate keyboarding skills with an awareness of productivity and accuracy standards and definitions.
17.02	Demonstrate use of transcription technology.
17.03	Discuss the use of commonly used dictation delivery and transcription technologies.
17.04	Students will accurately transcribe and/or edit a required minimum number of reports to include history and physical, consultations, discharge summaries, operative reports and special reports, applying competencies specified in the areas of English Language, Medical Knowledge, Technology, Healthcare Documentation, and Professional Practice.
17.05	Students will demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
17.06	Students will recognize, evaluate, and call attention to inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
17.07	Demonstrate the use of word processing programs, including commands for editing, file organization, and retrieval.
17.08	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
17.09	Demonstrate a general knowledge of speech recognition technology (SRT), its basic editing functions, and how it integrates into healthcare documentation.
17.10	Demonstrate a general knowledge of electronic healthcare records (EHR) including the functions related to dictation/transcription integration and editing, and common terminology used in EHR systems.
18.0	Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist. –The student will be able to:
18.01	Follow common health information policies and procedures for security specific to the role of the medical transcriptionist/ healthcare documentation specialist.
18.02	Demonstrate workstation ergonomics specific to the medical transcriptionist/ healthcare documentation specialist.
Course Number: HIM0084 Occupational Completion Point: B Medical Transcriber-ATD 3 – 370 Hours – SOC Code 31-9094	
19.0	Explain the role of health information services–The student will be able to:

	19.01	Understand the documentation workflow, will be able to explain the importance of delivering healthcare documentation in a timely manner, and apply this concept.
	19.02	Explain the use of the health record by state and federal regulatory and licensing agencies and accrediting bodies/agencies.
	19.03	Students will demonstrate an awareness of the opportunities in medical transcription/ healthcare documentation and related careers and the importance of professional development.
20.0	Demonstrate ethical and legal principles with regard to the use of healthcare documentation.–The student will be able to:	
	20.01	Explain the importance of maintaining ethical and legal standards in compiling and using healthcare documentation.
	20.02	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI).
	20.03	Explain medical record authentication and its legal implications.
	20.04	Explain the scope of practice of the medical transcriptionist/ healthcare documentation specialist.
	20.05	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).
	20.06	Discuss the code of ethics of the American Health Information Management Association (AHIMA).
	20.07	Discuss Health Insurance Portability and Accountability Act (HIPAA) regulations as these regulations apply to healthcare documentation.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Records Transcribing/Healthcare Documentation -ATD**
ATD CIP Number: **0351070706**
SOC Code(s): **31-9094**

When this program is offered at the college level, the following standards and benchmarks apply:

01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.

	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Recognize ethical issues related to health information technology.

	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Utilize appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.
	11.03	Demonstrate ability to connect to the internet.
	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.

	11.05	Demonstrate ability to send and receive e-mail.
	11.06	Demonstrate ability to send messages with attached files.
	11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
	11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
	11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:	
	12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
	12.03	Identify documents that may be required when applying for a job.
	12.04	Write an appropriate resume.
	12.05	Conduct a job search.
	12.06	Complete a job application form correctly.
	12.07	Demonstrate competence in job interview techniques.
	12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	12.09	Identify acceptable work habits.
	12.10	Recognize appropriate affective/professional behavior.
	12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
13.0	Use appropriate medical and scientific terminology–The student will be able to:	
	13.01	Spell, define and pronounce medical words and their components.
	13.02	Define and use medical abbreviations. brief forms, acronyms, eponyms, and foreign words and phrases commonly used in healthcare practice.
	13.03	Identify and use the medical terminology related to the structure and function of the human body.
	13.04	Identify, pronounce, spell, and define pharmacological terminology.
	13.05	Students will distinguish between or among medical homophones (soundalikes), commonly confused medical terms, and synonyms.

14.0	Apply concepts of disease, diagnosis and treatment of the human body. –The student will be able to:
14.01	Identify and explain structure and function of the human body in health and in disease.
14.02	Identify disorders and treatments of the human body.
14.03	Identify and explain electrodiagnostic, imaging, laboratory, and pathology procedures and their application to diseases and disorders.
14.04	Demonstrate knowledge of pharmacology to include indications and contraindications, dosage, methods of administration, interactions and side effects.
14.05	Categorize surgical procedures and other interventional diagnostic and treatment modalities by specialty, indications or related diagnoses, technique, and typical findings.
15.0	Apply rules of English grammar and punctuation.–The student will be able to:
15.01	Recognize and use the principal parts of speech.
15.02	Recognize and use punctuation marks.
15.03	Apply rules of numerical expression.
15.04	Apply rules of capitalization.
15.05	Define and use abbreviations.
15.06	Demonstrate ability to spell words in common usage.
15.07	Evaluate and use reliable resources for research and practice.
15.08	Apply correct medical style as defined by authorities (i.e. AHDI Book of style, AMA Manual of Style).
15.09	Edit and proofread healthcare documentation.
15.10	Recognize and use report formats.
16.0	Utilize medical references–The student will be able to:
16.01	Use medical dictionaries and specialty word books.
16.02	Identify and use trade, generic and chemical drug names utilizing reference sources.
16.03	Identify and use diagnostic test terminology.
16.04	Access, use and evaluate the reliability of resources located on the internet.
17.0	Apply healthcare documentation technology.–The student will be able to:

	17.01	Demonstrate keyboarding skills with an awareness of productivity and accuracy standards and definitions.
	17.02	Demonstrate use of transcription technology.
	17.03	Discuss the use of commonly used dictation delivery and transcription technologies.
	17.04	Students will accurately transcribe and/or edit a required minimum number of reports to include history and physical, consultations, discharge summaries, operative reports and special reports, applying competencies specified in the areas of English Language, Medical Knowledge, Technology, Healthcare Documentation, and Professional Practice.
	17.05	Students will demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
	17.06	Students will recognize, evaluate, and call attention to inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
	17.07	Demonstrate the use of word processing programs, including commands for editing, file organization, and retrieval.
	17.08	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
	17.09	Demonstrate a general knowledge of speech recognition technology (SRT), its basic editing functions, and how it integrates into healthcare documentation.
	17.10	Demonstrate a general knowledge of electronic healthcare records (EHR) including the functions related to dictation/transcription integration and editing, and common terminology used in EHR systems.
18.0	Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist. –The student will be able to:	
	18.01	Follow common health information policies and procedures for security specific to the role of the medical transcriptionist/ healthcare documentation specialist.
	18.02	Demonstrate workstation ergonomics specific to the medical transcriptionist/ healthcare documentation specialist.
19.0	Explain the role of health information services–The student will be able to:	
	19.01	Understand the documentation workflow, will be able to explain the importance of delivering healthcare documentation in a timely manner, and apply this concept.
	19.02	Explain the use of the health record by state and federal regulatory and licensing agencies and accrediting bodies/agencies.
	19.03	Students will demonstrate an awareness of the opportunities in medical transcription/ healthcare documentation and related careers and the importance of professional development.
20.0	Demonstrate ethical and legal principles with regard to the use of healthcare documentation.–The student will be able to:	
	20.01	Explain the importance of maintaining ethical and legal standards in compiling and using healthcare documentation.
	20.02	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI).
	20.03	Explain medical record authentication and its legal implications.
	20.04	Explain the scope of practice of the medical transcriptionist/ healthcare documentation specialist.

20.05	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).
20.06	Discuss the code of ethics of the American Health Information Management Association (AHIMA).
20.07	Discuss Health Insurance Portability and Accountability Act (HIPAA) regulations as these regulations apply to healthcare documentation.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Faculty teaching in this program must have a minimum of a B.S. degree in Health Information Management or Office Systems Technology -Medical Office Systems Specializations or an associate degree and demonstrated competencies in the specialty area as defined by Southern Association of Colleges and Schools (SACS).

For those programs preparing students for the Registered Healthcare Documentation Specialist industry certification through Association for the Healthcare Documentation Integrity (AHDI) the model curriculum of the AHDI should be used to properly prepare students for this examination. Industry Certification is voluntary and is sponsored by the AHDI.

4230 Kiernan Avenue
Suite 130
Modesto, CA 95356
Phone: Toll Free (800) 982-2182 - Direct (209) 527-9620
Fax: 209-527-9633.

Students should be encouraged to become members of their professional organization, and participate in the state/local chapter activities.

Outcomes 01- 12 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

The program should prepare the graduate to take the national examination to become a Certified Medical Transcriptionist. Certification is voluntary and is sponsored by the American Association for Medical Transcription, 3460 Oakdale Rd. Suite M, Modesto, CA 95355-9690, 800-982-2182 or (209) 551-0883.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C. the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion

from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 33 credits. When offered at a technical center the standard length of this program is 1200 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Healthcare Informatics Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351070712
Program Type	College Credit Certificate (CCC)
Program Length	24 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians

Purpose

This certificate program is part of the Health Information Technology AS degree program (1351070700).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as entry level Healthcare Informatics Specialists or to provide supplemental training for persons previously or currently employed in related health record or information technology occupations.

The content includes but is not limited to biomedical sciences, medical terminology, healthcare delivery systems, basic principles of healthcare informatics; electronic health/medical record systems; data and workflow management concepts; and project management skills specific to healthcare informatics, ethical and legal concepts, health data content, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Demonstrate knowledge of appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Demonstrate a basic understanding of the various informatics related disciplines.
14.0 Demonstrate ethical and legal principles with regard to the role of the informatics specialist.
15.0 Utilize valid resources in healthcare informatics to retrieve and analyze relevant information.
16.0 Manage health data.
17.0 Manage healthcare statistics, including biomedical research and quality.
18.0 Utilize appropriate information technology and systems.
19.0 Apply project management principles and practices to health informatics activities.
20.0 Participate in the planning, design, selection, implementation, integration, testing, and support for health information systems.
21.0 Demonstrate an understanding of the fundamental principles related to health record data and work flow management.
22.0 Demonstrate proficiency in electronic health/medical record systems and work flow management.
23.0 Demonstrate proficiency in the application and integration of healthcare informatics concepts and skills through practical lab experiences.

Florida Department of Education
Student Performance Standards

Program Title: **Healthcare Informatics Specialist**
CIP Number: **0351070712**
Program Length: **24 credit hours**
SOC Code(s): **29-2071**

This certificate program is part of the Health Information Technology AS degree program (1351070700). At the completion of this program, the student will be able to:	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic,

	ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.
02.12	Distinguish between and report subjective and objective information.
02.13	Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
03.01	Discuss the history of health information management.
03.02	Discuss the professional opportunities within the health information management profession.
03.03	Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
04.01	Describe the various uses of health data (primary and secondary).
04.02	Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
05.01	Demonstrate an understanding of the various formats of the health record.
05.02	Explain the various uses of a health record.
05.03	Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
06.01	Discuss how healthcare reform legislation can and does affect the HIT field.
06.02	Interpret information from Electronic Health Records (EHR) and applications in healthcare
06.03	Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
07.01	Demonstrate knowledge of administrative terminologies as they relate to HIM.
07.02	Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:

	08.01	Describe the code of ethics consistent with healthcare occupations.
	08.02	Recognize ethical issues related to health information technology.
	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.

11.03	Demonstrate ability to connect to the internet.
11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.
11.05	Demonstrate ability to send and receive e-mail.
11.06	Demonstrate ability to send messages with attached files.
11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:
12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
12.03	Identify documents that may be required when applying for a job.
12.04	Write an appropriate resume.
12.05	Conduct a job search.
12.06	Complete a job application form correctly.
12.07	Demonstrate competence in job interview techniques.
12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
12.09	Identify acceptable work habits.
12.10	Recognize appropriate affective/professional behavior.
12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
Healthcare Informatics Specialist: Students completing intended outcomes 13- 23 in this module meet the requirements for the completion of Healthcare Informatics Specialist. SOC Code 29-2071 (Medical Records and Health Information Technicians)	
13.0	Demonstrate a basic understanding of the various informatics related disciplines. – The student will be able to:
13.01	Identify key events in the history and development of the informatics discipline, including the present industry environment and future trends.

	13.02 Demonstrate comprehensive knowledge of health data standards related to the development of the computerized infrastructure necessary to support the implementation of electronic health/medical records.
	13.03 Explore the role of informatics professionals, specifically in the assessment of training needs and ethical practices to safeguard confidential health information.
	13.04 Explain the scope of practice of the healthcare informatics technician.
14.0	Demonstrate ethical and legal principles with regard to the role of the informatics specialist – The student will be able to:
	14.01 Discuss the Code of Ethics of the American Health Information Management Association (AHIMA) and other informatics related professional organizations.
	14.02 Explain the scope of practice of the healthcare informatics specialist.
15.0	Utilize valid resources in healthcare informatics to retrieve and analyze relevant information. – The student will be able to:
	15.01 Demonstrate the ability to identify credible informatics resources relevant to the content, applications, and assignments.
	15.02 Utilize case studies and best practices in informatics projects and course work.
16.0	Manage health data. –The student will be able to:
	16.01 Collect and maintain health data (such as data elements, data sets, and databases).
	16.02 Apply policies and procedures to ensure the accuracy of health data.
	16.03 Compare clinical vocabulary systems.
	16.04 Verify timelines, completeness, accuracy, and appropriateness of data and data sources for patient care, management, billing reports, registries, and/or databases.
	16.05 Maintain healthcare information requirements and health data standards.
	16.06 Collect, analyze and report quality measures.
	16.07 Maintain and interpret user access logs/audit trails to track history of access to and disclosure of identifiable patient data.
17.0	Manage healthcare statistics, including biomedical research and quality. –The student will be able to:
	17.01 Abstract and maintain data for clinical indices/databases/registries.
	17.02 Collect, organize, and present data for quality management, utilization management, risk management, and other related studies.
	17.03 Compute and interpret healthcare statistics.
	17.04 Understand Institutional Review Board (IRB) processes and policies.
	17.05 Use specialized databases to meet specific organization needs such as medical research and disease registries.

	17.06 Abstract and report data for facility wide quality management and performance improvement programs.
	17.07 Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare.
18.0	Utilize appropriate information technology and systems. – The student will be able to:
	18.01 Use technology, including hardware and software, to ensure data collection, storage, analysis, and reporting of information.
	18.02 Demonstrate advanced proficiency in using such as spreadsheets and databases in the execution of projects and presentations.
	18.03 Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement, and imaging.
	18.04 Apply policies and procedures to the use of networks, including internet and intranet applications to facilitate the electronic health record (EHR), personal health record (PHR), public health and other administrative applications.
	18.05 Apply knowledge of data base architecture and design (such as data dictionary, data modeling, data warehousing) to meet departmental needs.
	18.06 Use appropriate electronic or imaging technology for data/record storage.
	18.07 Design, query and generate reports to facilitate information retrieval.
	18.08 Apply retention and destruction policies for health information.
	18.09 Maintain archival and retrieval systems for patient information stored in multiple formats.
	18.10 Coordinate, use, and maintain systems for document imaging and storage.
	18.11 Apply confidentiality and security measures to protect electronic health information.
	18.12 Protect data integrity and validity using software or hardware technology.
	18.13 Apply departmental and organizational data and information system security policies
	18.14 Use and summarize data compiled from audit trails and data quality monitoring programs.
19.0	Apply project management principles and practices to health informatics activities. – The student will be able to:
	19.01 Demonstrate an understanding of the definition and general principles of healthcare informatics project management.
	19.02 Demonstrate skills associated with planning, executing, and tracking a healthcare informatics project.
	19.03 Demonstrate abilities related to managing work teams, allocating project resources, and resolving problems associated with a healthcare informatics project.
20.0	Participate in the planning, design, selection, implementation, integration, testing, and support for health information systems – The student will be able to:

	20.01	Demonstrate the ability to research best practices and perform a needs assessment to determine the architecture and system specifications needed for selection of an electronic health/medical record system for specific healthcare environments.
	20.02	Evaluate, select, and implement information technologies to manage health data and systems in various healthcare settings, i.e. hospitals, clinics, physician practices.
	20.03	Identify technological and behavioral barriers and potential solutions associated with electronic health/medical record implementation initiatives.
	20.04	Utilize project management skills and tools.
	20.05	Develop S.M.A.R.T. goals for Health Information Technology projects.
	20.06	Identify appropriate input/output devices and hardware configuration.
	20.07	Assess workflow and process assessment as it pertains to information technology.
	20.08	Describe information systems theory and the system development life cycle.
	20.09	Demonstrate an understanding of strategic planning for implementation of health information systems.
	20.10	Evaluate security standards including physical, virtual, and network risk areas.
	20.11	Assist in the development of end-user training sessions, including planning training sessions and development of training material.
21.0	Demonstrate an understanding of the fundamental principles related to health record data and work flow management. – The student will be able to:	
	21.01	Demonstrate an understanding of the architectural and operational components of an integrated health management information system.
	21.02	Demonstrate knowledge of health/medical record relational database design, management, and data warehousing/mining for decision support.
	21.03	Demonstrate the ability to utilize data flow diagrams and process design and redesign methodologies.
22.0	Demonstrate proficiency in electronic health/medical record systems and work flow management. – The student will be able to:	
	22.01	Recognize best practices.
	22.02	Explain the purpose of a needs assessment.
	22.03	Assist in the identification and selection of information technologies to manage health data and systems in various healthcare settings, i.e. hospitals, clinics, physician practices.
	22.04	Identify technological and behavioral barriers associated with electronic health/medical record implementation initiatives.
	22.05	Explore the influence and scope of electronic health/medical record system practices on a global and international scale.
23.0	Demonstrate proficiency in the application and integration of healthcare informatics concepts and skills through practical lab experiences –	

The student will be able to:	
23.01	Explore the role and responsibilities of the health informatics specialist as team leader and/or project manager.
23.02	Apply knowledge and skills related to organization or electronic health/medical record operations, personnel, equipment and resources.
23.03	Explore real-world applications of healthcare informatics principles and practices.
23.04	Demonstrate assimilation of knowledge and skills necessary for entry-level performance as a health informatics specialist.
23.05	Demonstrate an understanding of the definition and general principles of healthcare informatics project management.
23.06	Demonstrate skills associated with planning, executing, and tracking a healthcare informatics project.
23.07	Demonstrate abilities related to managing work teams, allocating project resources, and resolving problems associated with a healthcare informatics project.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The cooperative method of instruction or clinical rotation is appropriate for this program. Whenever these methods are offered, the following is required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; and a work station which reflects equipment, skills, and tasks which are relevant to the occupation which the student has chosen as a career goal. The student may receive compensation for work performed.

Faculty teaching this program must have a minimum of an AS degree in Healthcare Informatics, Nursing, Health Information Management.

Students should be encouraged to become members and participate in the activities of the professional organizations: American Health Information Management Association (AHIMA), Healthcare Information and Management Systems Society (HIMSS), American Medical Informatics Association (AMIA), and other discipline-specific professional informatics organizations.

Outcomes 01-12 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Coder/Biller-ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	H170530
CIP Number	0351070713	0351070715
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	37 credit hours	1110 clock hours
CTSO	HOSA: Future Health Professionals	
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians 29-2099 Health Technologists and Technicians, All Other	
Basic Skills Level:	Mathematics 10 Reading: 11 Language: 11	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment in a variety of health care settings as entry level coder, medical record coder, coding technician, or coding clerks, or medical coder/billers or SOC Code 29-2071 (Medical Records and Health Information Technicians).

The content includes but is not limited to medical terminology, anatomy and physiology, coding systems, fundamentals of disease process including pharmacology, health care delivery systems, basics of medical records services, ethical and legal responsibilities, safety/security procedures, basic data processing, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 2 occupational completion points and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	HIM0009	Introduction to Health Information Technology*	90 hours	29-2099
	HIM0091	Medical Coder/Biller I	350 hours	29-2071
	HIM0092	Medical Coder/Biller II	350 hours	
B	HIM0093	Medical Coder/Biller III	320 hours	

* Students who have taken the Health Core (HSC0003) previously as part of this program are not required to take HIM0009 to complete the program. These students should continue on to OCP B. Beginning in 2011-12 new students should be enrolled in HIM0009 as the first course in the program.

College Credit

When offered at the community college level, this ATD program is part of the Health Information Technology (1351070700) and has a program length of 37 credits.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Utilize appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Describe the anatomy and physiology of the human body.
14.0 Demonstrate proficiency in the application of medical terminology.
15.0 Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology.
16.0 Demonstrate proficiency in the use of ICD and CPT coding systems, both manual and automated.
17.0 Demonstrate proficiency in ICD coding complexities.
18.0 Explain the significance of health information services to the Medical Coder/Biller.
19.0 Demonstrate ethical and legal principles with regard to the use of medical records.
20.0 Demonstrate understanding of medical billing.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Coder/Biller-ATD**
PSAV Number: **H170530**

When this program is offered at the PSAV level, the following organization of courses, standards, and benchmarks apply.

Course Number: HIM0009 **Occupational Completion Point: A** **Introduction to Health Information Technology – 90 Hours – SOC Code 29-2099**	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic,

	ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.
02.12	Distinguish between and report subjective and objective information.
02.13	Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
03.01	Discuss the history of health information management.
03.02	Discuss the professional opportunities within the health information management profession.
03.03	Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
04.01	Describe the various uses of health data (primary and secondary).
04.02	Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
05.01	Demonstrate an understanding of the various formats of the health record.
05.02	Explain the various uses of a health record.
05.03	Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
06.01	Discuss how healthcare reform legislation can and does affect the HIT field.
06.02	Interpret information from Electronic Health Records (EHR) and applications in healthcare
06.03	Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
07.01	Demonstrate knowledge of administrative terminologies as they relate to HIM.
07.02	Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:

	08.01	Describe the code of ethics consistent with healthcare occupations.
	08.02	Recognize ethical issues related to health information technology.
	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.

11.03	Demonstrate ability to connect to the internet.
11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.
11.05	Demonstrate ability to send and receive e-mail.
11.06	Demonstrate ability to send messages with attached files.
11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:
12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
12.03	Identify documents that may be required when applying for a job.
12.04	Write an appropriate resume.
12.05	Conduct a job search.
12.06	Complete a job application form correctly.
12.07	Demonstrate competence in job interview techniques.
12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
12.09	Identify acceptable work habits.
12.10	Recognize appropriate affective/professional behavior.
12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
Course Number: HIM HIM0091 Occupational Completion Point: B Medical Coder/Biller I – 350 Hours – SOC Code 29-2071	
13.0	Describe the anatomy and physiology of the human body–The student will be able to:
13.01	Describe the structure and function of the respiratory system.

	13.02 Describe the structure and function of the circulatory system.
	13.03 Describe the structure and function of the musculoskeletal & connective tissue system.
	13.04 Describe the structure and function of nervous and sensory systems.
	13.05 Describe the structure and function of the reproductive system.
	13.06 Describe the structure and function of the urinary system.
	13.07 Describe the structure and function of the digestive system.
	13.08 Describe the structure and function of the endocrine system.
14.0	Demonstrate proficiency in the application of medical terminology–The student will be able to:
	14.01 Recognize and identify word parts of medical terminology in daily use.
	14.02 Build, spell and pronounce correctly, appropriate terms from word parts learned and be able to give the meaning of the word.
	14.03 Identify word parts and be able to build, spell and understand new words with those parts.
	14.04 Spell and use medical abbreviations.
	14.05 Recognize and identify terminology of hospital and other clinical forms.
	14.06 Demonstrate use of basic terminology common to medical/surgical practices.
	14.07 Use medical reference materials.
15.0	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology–The student will be able to:
	15.01 Demonstrate an understanding of the predisposing factors and direct causes of disease as they relate to the human body.
	15.02 Demonstrate an understanding of the general morphology of organisms and their role in the disease process.
	15.03 Demonstrate an understanding of the pathogenesis of diseases of all the body systems.
	15.04 Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
	15.05 Identify and use diagnostic test terminology.

Course Number: HIM HIM0092 Occupational Completion Point: B Medical Coder/Biller II – 350 Hours – SOC Code 29-2071	
16.0	Demonstrate proficiency in use of ICD and CPT coding systems, both manual and automated–The student will be able to:
16.01	Outline the development of nomenclatures and classification systems.
16.02	Identify conventions and guidelines used in coding.
16.03	Describe the process to annually update coding resources.
16.04	Demonstrate the ability to code CPT and HCPCS II Codes with a focus on correct coding and sequencing of CPT codes for Anesthesia; Evaluation & Management (E&M); Surgery; Pathology and Laboratory; Radiology , and Medicine.
16.05	Identify when it is appropriate to use HCPCS Level II codes and how to code them correctly.
16.06	Use case studies and authentic medical records/abstracts to code intermediate and advanced, complex procedure code assignment using CPT (all sections), HCPCS II Codes, and, the current ICD Procedural Coding System
16.07	Append all appropriate modifiers to both CPT and HCPCS II codes
16.08	Explain Physician Quality Reporting Initiative (PQRI) and its relationship to CPT Category II codes.
16.09	Demonstrate the ability to accurately code and sequence for current ICD Diagnoses and Procedural Coding System Codes by body systems and supplemental chapters/materials.
16.10	Identify any discrepancies, incomplete information and/or poor documentation practices in relation to coding while following appropriate departmental policies for correcting errors or improving documentation practices.
17.0	Demonstrate proficiency in ICD coding complexities–The student will be able to:
17.01	Apply advanced ICD coding concepts to diagnostic complexities of complex case studies with an articulation of coding rules and sequencing.
17.02	Understand case-mix analysis, severity of illness systems, and coding quality monitors and reporting.
17.03	Using a variety of simulated patient records (Emergency Department, Ambulatory Surgery, and Inpatient), interpret data and assign diagnostic codes.
17.04	Describe characteristics of prospective payment systems (DRG, APR-DRG, APC and RUGS groupers) for various types of healthcare settings.
17.05	Review the format and conventions of ICD Diagnoses and Procedural Coding System coding systems.
17.06	Identify the areas of similarities and differences to various classification systems (For example, ICD, DSM-IV, ICD-O).
17.07	Use and maintain application processes to support other clinical classification systems (DSM IV, ICD-O).
17.08	Explain how the Systematized Nomenclature of Medicine clinical terminology is utilized in the development of an electronic health record system.

18.0	Explain the significance of health information services to the Medical Coder/Biller–The student will be able to:
18.01	Describe origin, history and definition of all medical record types.
18.02	Describe the functions of the medical record department, i.e., data collecting, filing, retrieving, coding, indexing, and workflow in all record types.
18.03	Explain the classification and functions of health information management personnel and chain of command.
18.04	State reasons medical records are important in the health care delivery system.
18.05	Explain different filing systems used in health care institutions.
18.06	Describe the development of the medical record to include all record types.
18.07	Explain the importance of the medical record in relation to state and federal agencies, accrediting and licensing agencies.
18.08	Demonstrate the use of a master patient index (MPI) system.

Course Number: HIM HIM0093 Occupational Completion Point: B Medical Coder/Biller III – 320 Hours – SOC Code 29-2071	
19.0	Demonstrate ethical and legal principles with regard to the use of medical records–The student will be able to:
19.01	Explain the importance of maintaining ethical and legal standards in compiling and using medical records.
19.02	Discuss the Code of Ethics of the American Health Information Management Association.
19.03	Explain the scope of practice of the Medical Coder/Biller.
19.04	Demonstrate ethical coding practices as outlined by AHIMA.
19.05	Identify HIPAA compliance guidelines and regulations for electronic health information.
20.0	Demonstrate understanding of medical billing–The student will be able to:
20.01	Demonstrate an understanding of the revenue cycle management processes.
20.02	Complete CMS (Centers of Medicare/Medicaid Services) 1500 or comparable claim form.
20.03	Compare and contrast various reimbursement entities.
20.04	Identify sources of payment, including patient and third parties.
20.05	Use medical billing software.

20.06	Perform electronic claims billing and submission.
20.07	Interpret explanation of benefits (EOBs) and explanation of Medicare benefits (EOMBs).
20.08	Analyze claims rejection, correct and resubmit for payment.
20.09	Explain the relationship of current payment methodologies and systems including but not limited to Medicare Severity Diagnosis Related Groups (MS-DRGs) Ambulatory Payment Classifications (APCs), Resource Based Relative Value Scale (RBRVS), and Ambulatory Surgery Center (ASC) Payment System.
20.10	Identify the various external regulating agencies and their impact on the coding systems.
20.11	Discuss chargemaster and superbill maintenance.
20.12	Understand compliance strategies and reporting as well as regulatory guidelines such as the National Correct Coding Initiative (NCCI), Local Coverage Determination (LCD), National Coverage Determination (NCD) and the Outpatient Code Editor (OCE).

Florida Department of Education
Student Performance Standards

Program Title: **Medical Coder/Biller-ATD**
ATD CIP Number: **0351070713**
SOC Code(s): **29-2071**

When this program is offered at the college level, the following standards and benchmarks apply:

01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.

	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Recognize ethical issues related to health information technology.

	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.
	11.03	Demonstrate ability to connect to the internet.
	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.

	11.05	Demonstrate ability to send and receive e-mail.
	11.06	Demonstrate ability to send messages with attached files.
	11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
	11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
	11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:	
	12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
	12.03	Identify documents that may be required when applying for a job.
	12.04	Write an appropriate resume.
	12.05	Conduct a job search.
	12.06	Complete a job application form correctly.
	12.07	Demonstrate competence in job interview techniques.
	12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	12.09	Identify acceptable work habits.
	12.10	Recognize appropriate affective/professional behavior.
	12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
13.0	Describe the anatomy and physiology of the human body–The student will be able to:	
	13.01	Describe the structure and function of the respiratory system.
	13.02	Describe the structure and function of the circulatory system.
	13.03	Describe the structure and function of the musculoskeletal & connective tissue system.
	13.04	Describe the structure and function of nervous and sensory systems.
	13.05	Describe the structure and function of the reproductive system.

	13.06 Describe the structure and function of the urinary system.
	13.07 Describe the structure and function of the digestive system.
	13.08 Describe the structure and function of the endocrine system.
14.0	Demonstrate proficiency in the application of medical terminology–The student will be able to:
	14.01 Recognize and identify word parts of medical terminology in daily use.
	14.02 Build, spell and pronounce correctly, appropriate terms from word parts learned and be able to give the meaning of the word.
	14.03 Identify word parts and be able to build, spell and understand new words with those parts.
	14.04 Spell and use medical abbreviations.
	14.05 Recognize and identify terminology of hospital and other clinical forms.
	14.06 Demonstrate use of basic terminology common to medical/surgical practices.
	14.07 Use medical reference materials.
15.0	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology–The student will be able to:
	15.01 Demonstrate an understanding of the predisposing factors and direct causes of disease as they relate to the human body.
	15.02 Demonstrate an understanding of the general morphology of organisms and their role in the disease process.
	15.03 Demonstrate an understanding of the pathogenesis of diseases of all the body systems.
	15.04 Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
	15.05 Identify and use diagnostic test terminology.
16.0	Demonstrate proficiency in use of ICD and CPT coding systems, both manual and automated–The student will be able to:
	16.01 Outline the development of nomenclatures and classification systems.
	16.02 Identify conventions and guidelines used in coding.
	16.03 Describe the process to annually update coding resources.
	16.04 Demonstrate the ability to code CPT and HCPCS II Codes with a focus on correct coding and sequencing of CPT codes for Anesthesia; Evaluation & Management (E&M); Surgery; Pathology and Laboratory; Radiology , and Medicine.
	16.05 Identify when it is appropriate to use HCPCS Level II codes and how to code them correctly.

	16.06	Use case studies and authentic medical records/abstracts to code intermediate and advanced, complex procedure code assignment using CPT (all sections), HCPCS II Codes, and, the current ICD Procedural Coding System
	16.07	Append all appropriate modifiers to both CPT and HCPCS II codes
	16.08	Explain Physician Quality Reporting Initiative (PQRI) and its relationship to CPT Category II codes.
	16.09	Demonstrate the ability to accurately code and sequence for current ICD Diagnoses and Procedural Coding System Codes by body systems and supplemental chapters/materials.
	16.10	Identify any discrepancies, incomplete information and/or poor documentation practices in relation to coding while following appropriate departmental policies for correcting errors or improving documentation practices.
17.0	Demonstrate proficiency in ICD coding complexities–The student will be able to:	
	17.01	Apply advanced ICD coding concepts to diagnostic complexities of complex case studies with an articulation of coding rules and sequencing.
	17.02	Understand case-mix analysis, severity of illness systems, and coding quality monitors and reporting.
	17.03	Using a variety of simulated patient records (Emergency Department, Ambulatory Surgery, and Inpatient), interpret data and assign diagnostic codes.
	17.04	Describe characteristics of prospective payment systems (DRG, APR-DRG, APC and RUGS groupers) for various types of healthcare settings.
	17.05	Review the format and conventions of ICD Diagnoses and Procedural Coding System coding systems.
	17.06	Identify the areas of similarities and differences to various classification systems (For example, ICD, DSM-IV, ICD-O).
	17.07	Use and maintain application processes to support other clinical classification systems (DSM IV, ICD-O).
	17.08	Explain how the Systematized Nomenclature of Medicine clinical terminology is utilized in the development of an electronic health record system.
18.0	Explain the significance of health information services to the Medical Coder/Biller–The student will be able to:	
	18.01	Describe origin, history and definition of all medical record types.
	18.02	Describe the functions of the medical record department, i.e., data collecting, filing, retrieving, coding, indexing, and workflow in all record types.
	18.03	Explain the classification and functions of health information management personnel and chain of command.
	18.04	State reasons medical records are important in the health care delivery system.
	18.05	Explain different filing systems used in health care institutions.
	18.06	Describe the development of the medical record to include all record types.
	18.07	Explain the importance of the medical record in relation to state and federal agencies, accrediting and licensing agencies.

	18.08	Demonstrate the use of a master patient index (MPI) system.
19.0	Demonstrate ethical and legal principles with regard to the use of medical records–The student will be able to:	
	19.01	Explain the importance of maintaining ethical and legal standards in compiling and using medical records.
	19.02	Discuss the Code of Ethics of the American Health Information Management Association.
	19.03	Explain the scope of practice of the Medical Coder/Biller.
	19.04	Demonstrate ethical coding practices as outlined by AHIMA.
	19.05	Identify HIPAA compliance guidelines and regulations for electronic health information.
20.0	Demonstrate understanding of medical billing–The student will be able to:	
	20.01	Demonstrate an understanding of the revenue cycle management processes.
	20.02	Complete CMS (Centers of Medicare/Medicaid Services) 1500 or comparable claim form.
	20.03	Compare and contrast various reimbursement entities.
	20.04	Identify sources of payment, including patient and third parties.
	20.05	Use medical billing software.
	20.06	Perform electronic claims billing and submission.
	20.07	Interpret explanation of benefits (EOBs) and explanation of Medicare benefits (EOMBs).
	20.08	Analyze claims rejection, correct and resubmit for payment.
	20.09	Explain the relationship of current payment methodologies and systems including but not limited to Medicare Severity Diagnosis Related Groups (MS-DRGs) Ambulatory Payment Classifications (APCs), Resource Based Relative Value Scale (RBRVS), and Ambulatory Surgery Center (ASC) Payment System.
	20.10	Identify the various external regulating agencies and their impact on the coding systems.
	20.11	Discuss chargemaster and superbill maintenance.
	20.12	Understand compliance strategies and reporting as well as regulatory guidelines such as the National Correct Coding Initiative (NCCI), Local Coverage Determination (LCD), National Coverage Determination (NCD) and the Outpatient Code Editor (OCE).

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students..

Special Notes

Students should be encouraged to become members and participate in the activities of the professional organizations: American Health Information Management Association and/or American Academy of Procedural Coders.

About AHIMA Credentials:
Completers of the Medical Biller Coder program may take the Certified Coding Associate (CCA) credential exam as the first step in their coding career. The CCA is an entry-level credential that distinguishes new coders in the job market. Individuals with a CCA credential:

- Exhibit a level of commitment, competency, and professional capability usually absent in a newcomer to the field
- Demonstrate a commitment to the coding profession
- Distinguish themselves from non-credentialed coders and those holding credentials from other organizations less demanding of the higher level of expertise required to earn AHIMA certification.

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The American Academy of Professional Coders (AAPC) sponsors a certification exam for coders with expertise in physician-based settings which leads to the title of Certified Professional Coder (CPC) or Certified Professional Coder Hospital (CPC-H).

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Outcomes 01-12 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C. the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 37 credits. When offered at a technical center the standard length of this program is 1100 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Information Coder/Biller**
Career Cluster: **Health Science**

CCC	
CIP Number	0351070714
Program Type	College Credit Certificate (CCC)
Program Length	37 credit hours
CTSO	HOSA: Future Health Professionals; Phi Beta Lambda
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians

Purpose

This certificate program is part of the Health Information Technology AS degree program (1351070700).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment in a variety of health care settings as entry level coder, medical record coder, coding technician, or coding clerks, or medical coder/billers, SOC Code 29-2071 (Medical Records and Health Information Technicians). Some colleges may choose to divide the Coder/Biller Certificate into two tracks, one for coding and one for billing.

The content includes but is not limited to medical terminology, anatomy and physiology, coding systems, fundamentals of disease process, including pharmacology, healthcare delivery systems, basics of medical records services, ethical and legal responsibilities, safety/security procedures, basic data processing, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Utilize appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Describe the anatomy and physiology of the human body.
14.0 Demonstrate proficiency in the application of medical terminology.
15.0 Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology.
16.0 Demonstrate proficiency in the use of ICD and CPT coding systems, both manual and automated.
17.0 Demonstrate proficiency in ICD coding complexities.
18.0 Explain the significance of health information services to the Medical Coder/Biller.
19.0 Demonstrate ethical and legal principles with regard to the use of medical records.
20.0 Demonstrate understanding of medical billing.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Information Coder/Biller**
CIP Number: **0351070714**
Program Length: **37 credit hours**
SOC Code(s): **29-2071**

This certificate program is part of the Health Information Technology AS degree program (1351070700). At the completion of this program, the student will be able to:	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic,

	ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.
02.12	Distinguish between and report subjective and objective information.
02.13	Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
03.01	Discuss the history of health information management.
03.02	Discuss the professional opportunities within the health information management profession.
03.03	Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
04.01	Describe the various uses of health data (primary and secondary).
04.02	Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
05.01	Demonstrate an understanding of the various formats of the health record.
05.02	Explain the various uses of a health record.
05.03	Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
06.01	Discuss how healthcare reform legislation can and does affect the HIT field.
06.02	Interpret information from Electronic Health Records (EHR) and applications in healthcare
06.03	Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
07.01	Demonstrate knowledge of administrative terminologies as they relate to HIM.
07.02	Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:

	08.01	Describe the code of ethics consistent with healthcare occupations.
	08.02	Recognize ethical issues related to health information technology.
	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.

	11.03	Demonstrate ability to connect to the internet.
	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.
	11.05	Demonstrate ability to send and receive e-mail.
	11.06	Demonstrate ability to send messages with attached files.
	11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
	11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
	11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:	
	12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
	12.03	Identify documents that may be required when applying for a job.
	12.04	Write an appropriate resume.
	12.05	Conduct a job search.
	12.06	Complete a job application form correctly.
	12.07	Demonstrate competence in job interview techniques.
	12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	12.09	Identify acceptable work habits.
	12.10	Recognize appropriate affective/professional behavior.
	12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
13.0	Describe the anatomy and physiology of the human body–The student will be able to:	
	13.01	Describe the structure and function of the respiratory system.
	13.02	Describe the structure and function of the circulatory system.
	13.03	Describe the structure and function of the musculoskeletal & connective tissue system.

	13.04 Describe the structure and function of nervous and sensory systems.
	13.05 Describe the structure and function of the reproductive system.
	13.06 Describe the structure and function of the urinary system.
	13.07 Describe the structure and function of the digestive system.
	13.08 Describe the structure and function of the endocrine system.
14.0	Demonstrate proficiency in the application of medical terminology–The student will be able to:
	14.01 Recognize and identify word parts of medical terminology in daily use.
	14.02 Build, spell and pronounce correctly, appropriate terms from word parts learned and be able to give the meaning of the word.
	14.03 Identify word parts and be able to build, spell and understand new words with those parts.
	14.04 Spell and use medical abbreviations.
	14.05 Recognize and identify terminology of hospital and other clinical forms.
	14.06 Demonstrate use of basic terminology common to medical/surgical practices.
	14.07 Use medical reference materials.
15.0	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology–The student will be able to:
	15.01 Demonstrate an understanding of the predisposing factors and direct causes of disease as they relate to the human body.
	15.02 Demonstrate an understanding of the general morphology of organisms and their role in the disease process.
	15.03 Demonstrate an understanding of the pathogenesis of diseases of all the body systems.
	15.04 Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
	15.05 Identify and use diagnostic test terminology.
16.0	Demonstrate proficiency in use of ICD and CPT coding systems, both manual and automated–The student will be able to:
	16.01 Outline the development of nomenclatures and classification systems.
	16.02 Identify conventions and guidelines used in coding.
	16.03 Describe the process to annually update coding resources.

	16.04	Demonstrate the ability to code CPT and HCPCS II Codes with a focus on correct coding and sequencing of CPT codes for Anesthesia; Evaluation & Management (E&M); Surgery; Pathology and Laboratory; Radiology , and Medicine.
	16.05	Identify when it is appropriate to use HCPCS Level II codes and how to code them correctly.
	16.06	Use case studies and authentic medical records/abstracts to code intermediate and advanced, complex procedure code assignment using CPT (all sections), HCPCS II Codes, and, the current ICD Procedural Coding System
	16.07	Append all appropriate modifiers to both CPT and HCPCS II codes
	16.08	Explain Physician Quality Reporting Initiative (PQRI) and its relationship to CPT Category II codes.
	16.09	Demonstrate the ability to accurately code and sequence for current ICD Diagnoses and Procedural Coding System Codes by body systems and supplemental chapters/materials.
	16.10	Identify any discrepancies, incomplete information and/or poor documentation practices in relation to coding while following appropriate departmental policies for correcting errors or improving documentation practices.
17.0	Demonstrate proficiency in ICD coding complexities–The student will be able to:	
	17.01	Apply advanced ICD coding concepts to diagnostic complexities of complex case studies with an articulation of coding rules and sequencing.
	17.02	Understand case-mix analysis, severity of illness systems, and coding quality monitors and reporting.
	17.03	Using a variety of simulated patient records (Emergency Department, Ambulatory Surgery, and Inpatient), interpret data and assign diagnostic codes.
	17.04	Describe characteristics of prospective payment systems (DRG, APR-DRG, APC and RUGS groupers) for various types of healthcare settings.
	17.05	Review the format and conventions of ICD Diagnoses and Procedural Coding System coding systems.
	17.06	Identify the areas of similarities and differences to various classification systems (For example, ICD, DSM-IV, ICD-O).
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Special Notes

This program is part of Health Information Technology or Office Administration - Medical Office Specialization. The College Credit Certificate guarantees transfer of credit of 37 hours toward the AS degree in Health Information Technology or Office Administration. Minimum entrance requirements for this program include a high school diploma or GED.

The cooperative method of instruction or clinical rotation is appropriate for this program. Whenever these methods are offered, the following is required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; and a work station which reflects equipment, skills, and tasks which are relevant to the occupation which the student has chosen as a career goal. The student may receive compensation for work performed.

Faculty teaching this program must have a minimum of an AS degree in Health Information Management.

Students should be encouraged to become members and participate in the activities of the professional organizations: American Health Information Management Association and/or American Academy of Procedural Coders.

About AHIMA Credentials:
Students who complete the Medical Biller Coder program may take the Certified Coding Associate (CCA) credential exam as the first step in their coding career. The CCA is an entry-level credential that distinguishes new coders in the job market. Individuals with a CCA credential:

- Exhibit a level of commitment, competency, and professional capability usually absent in a newcomer to the field.
- Demonstrate a commitment to the coding profession.
- Distinguish themselves from non-credentialed coders and those holding credentials from other organizations less demanding of the higher level of expertise required to earn AHIMA certification.

The CCA should be viewed as the starting point for an individual entering a career as a coder. The AHIMA CCS and CCS-P exams demonstrate mastery level skills in coding. Most individuals challenge the CCS or CCS-P exams after two or more years of work experience in coding.

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Florida Department of Education
Curriculum Framework

Program Title: **Clinical Research Coordinator**
Career Cluster: **Health Science**

CCC	
CIP Number	0351071901
Program Type	College Credit Certificate (CCC)
Standard Length	30 credit hours
CTSO	HOSA
SOC Codes (all applicable)	**11.9121 Natural Science Managers** **11.9199 Manager, All Other** **11.9111 Medical and Health Services Manager** **31.9099 Healthcare Support Worker, All Other**

Purpose

This certificate program is part of the Clinical Research Professional AS or AAS degree program (1351071902).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as clinical research coordinators. SOC Code 11-9121 (Natural Science Manager), 11-9111 (Medical and Health Services Manager), 11-9199 (Manager All Other), or 31-9099 (Healthcare Support Workers, All other) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of management, introduction to computer literacy, health care organization, medical ethics, legal aspects, and advanced technical skills in a chosen health-related profession, health and safety, and CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 30 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate basic knowledge of medical language, anatomy and physiology.
02.0 Identify and apply basic knowledge of different aspects of wellness.
03.0 Demonstrate knowledge of funding and site sponsorship related to clinical research including: public/private grants and contracts and lifecycles of clinical trials
04.0 Demonstrate knowledge of the guidelines and regulations governing clinical trials.
05.0 Demonstrate ability to work as a clinical research professional.
06.0 Demonstrate knowledge of the compliance and monitoring issues in clinical research
07.0 Demonstrate knowledge of the research process including: consent, screening, phases of clinical trials, product development and adverse events and safety.
08.0 Demonstrate knowledge of current events in the field of public health.
09.0 Demonstrate the ability to identify U.S. health care delivery funding sources.
10.0 Demonstrate knowledge of the principles and language of pharmacology, including drugs and drug classes, diagnostic tests, indications, techniques.

Florida Department of Education
Student Performance Standards

Program Title: **Clinical Research Coordinator**
CIP Number: **0351071901**
Program Length: **30 credit hours**
SOC Code(s): **11.9121, 11.9111, 11.9199, 31.9099**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework in accordance with Rule 6A-14.030, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate basic knowledge of medical language, anatomy and physiology. – The student will be able to:
01.01	Define, describe and discuss anatomic descriptive terms of the body.
01.02	Demonstrate an understanding of basic patient discharge and transfer procedures.
01.03	Describe common abbreviations and commonly used medical terms and their proper usage.
01.04	Define and describe anatomic names of bones and organs of the body.
02.0	Identify and apply basic knowledge of different aspects of wellness. – The student will be able to:
02.01	Discuss integrating health living into one's lifestyle.
02.02	Define: physical fitness, mental health, nutrition, tobacco usage, alcohol consumption, illicit drug use, family living and how these factors connect with the concepts of wellness on a personal level.
02.03	Identify the risk factors for cardiovascular disease.
02.04	Describe the effects of tobacco and smoking on the human body.
02.05	Describe the various fitness methods to improve health.
02.06	Discuss the effects of nutrition on health and wellness.
02.07	Explain body composition and achieving a healthy weight.
02.08	Describe stress management strategies.
02.09	Discuss the use and abuse of illicit drugs in society.

	02.10 Describe the effects of chronic disease on the human body.
03.0	Demonstrate knowledge of funding and site sponsorship related to clinical research including: public/private grants and contracts and lifecycles of clinical trials.– The student will be able to:
	03.01 Describe key concepts and skills used in the site-sponsor relationship.
	03.02 Classify clinical research funding sources and the protocols used to secure funding.
	03.03 Discuss basic constructs related to grants & contracts management in clinical research.
	03.04 Provide examples of the types of lifecycles of clinical trials.
	03.05 Define the terms and language used in startup & closing Items on clinical research.
	03.06 Determine communication methods to be used in the startup and closing of items in clinical research.
04.0	Demonstrate knowledge of the guidelines and regulations governing clinical trials.– The student will be able to:
	04.01 Understand the array of guidelines & regulations governing clinical trials.
	04.02 Describe the various HIPPAA Privacy & clinical research privacy issues.
	04.03 Identify the major GCP/ICH guidelines related to working with human subjects in research
	04.04 Discuss the various sources and uses of essential documents generated from clinical studies.
	04.05 Explain the role of compliance in maintaining fidelity to a study protocol.
	04.06 Provide examples of a standard response to a request for documentation of meeting award conditions.
	04.07 Understand the array of analysis techniques used in interpreting research findings.
05.0	Demonstrate ability to work as a clinical research professional.– The student will be able to:
	05.01 Identify clinical and behavioral research settings where Clinical Research Professionals are employed.
	05.02 Demonstrate an understanding of the essential duties of a Clinical Research Professional.
	05.03 Describe procedures and processes used to protect research participants at placement site.
	05.04 Discuss the core research activities of placement site.
	05.05 Demonstrate an understanding of how placement site works with: local, county, state and federal agencies to carry out their research activities.
	05.06 Evaluate the role of Clinical Research Professionals in research settings.

05.07	Demonstrate the skills necessary to be a productive member of a research team including; working on a multidisciplinary research team and demonstrating an ability to work with confidential research participant information.
06.0	Demonstrate knowledge of the compliance and monitoring issues in clinical research.– The student will be able to:
06.01	Describe the role of compliance in clinical research.
06.02	Identify issues related to compliance in human subject's research.
06.03	Explain activities associated with monitoring within the scope of clinical research.
06.04	Discuss processes used to resolve issues that may arise from monitoring as part of a clinical trial.
06.05	Provide examples of quality assurance audits used in clinical research and discuss their value in relation to performing research with human subjects.
06.06	Define the types of inspections clinical research facilities are subject to.
07.0	Demonstrate knowledge of the research process including: consent, screening, phases of clinical trials, product development and adverse events and safety.– The student will be able to:
07.01	Accurately describe the processes involved in clinical research.
07.02	Define and describe issues associated with participant consent.
07.03	Explain the goals, limitations and basic rules for screening participants.
07.04	Discuss market and social aspects of product development (drugs & devices).
07.05	Discuss impacts of clinical trial stakeholders.
07.06	Accurately describe how epidemiology is used in clinical research.
07.07	Explain the relationship between essential processes related to adverse events & safety.
08.0	Demonstrate knowledge of current events in the field of public health. – The student will be able to:
08.01	Identify outlets (news, media, governmental) used to communicate public health events to the general public.
08.02	Describe the implications of current events on public health.
08.03	Discuss concerns related to how public health information is relayed to the public.
08.04	Recognize how reporting of global events (e.g. epidemics, regime change, and weather events) has the potential to impact other areas.
08.05	Locate emerging public health trends.
08.06	Explain etiology of emerging public health trends discussed throughout semester.

	08.07	Discuss legislation designed to protect the public's right to information during major health events (epidemics, terrorism, natural disasters).
09.0	Demonstrate the ability to identify U.S. health care delivery funding sources. – The student will be able to:	
	09.01	Demonstrate an understanding of the evolutionary perspective of health services and its relevance with the existing healthcare system, facilities and services.
	09.02	Explain the social, political, and public policy implications of health-related issues, such as availability, cost, delivery, and financing.
	09.03	Describe the various health care organizations and service delivery options.
	09.04	Identify the major health professions and explain the role of each and their licensing/educational requirements.
	09.05	Compare and contrast the health care delivery systems of the U.S. with other major industrialized nations.
	09.06	Understand the array of career choices in the health care sector of the economy.
10.0	Demonstrate knowledge of the principles and language of pharmacology, including drugs and drug classes, diagnostic tests, indications, techniques.-The student will be able to:	
	10.01	Describe pharmacological principles.
	10.02	Classify routes of administration.
	10.03	Describe the relationships of drug classes with disease processes and medical specialties.
	10.04	Recognize commonly prescribed medications
	10.05	Use appropriate pharmacological and laboratory references.
	10.06	Describe indications, actions, dosages, and routes of administration.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

HOSA is/are the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Assisting Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351080104
Program Type	College Credit Certificate (CCC)
Program Length	44 credit hours
CTSO	HOSA
SOC Codes (all applicable)	31-9092 Medical Assistants 31-9099 Healthcare Support Workers, All Other 43-4171 Receptionists and Information Clerks 31-9097 Phlebotomists

Purpose

This certificate program is part of the Medical Assisting Advanced AS degree program (1351080103).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The content includes but is not limited to communication, transcultural communication in healthcare, interpersonal skills, legal and ethical responsibilities, health-illness concepts, administrative and clinical duties, emergency procedures including CPR and first aid, emergency preparedness, safety and security procedures, medical terminology, anatomy and physiology, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate communication skills used by medical assistants.
13.0 Demonstrate knowledge of legal and ethical responsibilities for medical assistants.
14.0 Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states.
15.0 Demonstrate basic clerical/medical office duties.
16.0 Demonstrate accepted professional, communication, and interpersonal skills.
17.0 Discuss phlebotomy in relation to the health care setting.
18.0 Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist.
19.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
20.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
21.0 Practice infection control following standard precautions.
22.0 Practice accepted procedures of transporting, accessioning and processing specimens.
23.0 Practice quality assurance and safety.
24.0 Describe the role of a medical assistant with intravenous therapy in oncology and dialysis.
25.0 Describe the cardiovascular system.
26.0 Identify legal and ethical responsibilities of an EKG aide.
27.0 Perform patient care techniques in the health care facility.
28.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
29.0 Demonstrate basic office examination procedures.
30.0 Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques.
31.0 Demonstrate minor treatments.
32.0 Demonstrate knowledge of basic diagnostic medical assisting procedures.
33.0 Demonstrate basic X-Ray procedures.
34.0 Demonstrate knowledge of pharmaceutical principles and administer medications.
35.0 Perform CLIA-waived diagnostic clinical laboratory procedures.
36.0 Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision.

37.0 Demonstrate knowledge of emergency preparedness and protective practices.
38.0 Perform administrative office duties.
39.0 Perform administrative and general skills.
40.0 Perform clinical and general skills.
41.0 Display professional work habits integral to medical assisting.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Assisting**
CIP Number: **0351080104**
Program Length: **44 credit hours**
SOC Code(s): **31-9092, 31-9099, 43-4171, 31-9097**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Medical Assisting Advanced AS degree program 1351080103. At the completion of this program, the student will be able to:	
12.0	Demonstrate communication skills used by medical assistants. – The student will be able to:
12.01	Organize written and verbal ideas in a concise, precise and logical manner.
12.02	State examples of both verbal and non-verbal communication.
12.03	Use medical terminology as appropriate for a medical assistant.
12.04	Comply with safety signs, symbols, and labels.
12.05	Describe the role of the medical assistant.
13.0	Demonstrate knowledge of legal and ethical responsibilities for medical assistants. – The student will be able to:
13.01	Provide health care as set forth in Florida Statute for the medical assistant.
13.02	Distinguish between the liability of the physicians and staff members in the medical office.
13.03	Explain the principles for preventing medical liability.
13.04	List the principles in the Codes of Ethics for Medical Assistants as stated by the American Association of Medical Assistants.
14.0	Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states. – The student will be able to:

	14.01	Define the terms Anatomy and Physiology
	14.02	Define both medical terms and abbreviations related to all body systems.
	14.03	Define the principle directional terms, planes, quadrants and cavities used in describing the body and the association of body parts to one another.
	14.04	Define the levels of organization of the body inclusive of, but not limited to, cells, organs and body systems.
	14.05	Describe the function of the 11 major organ systems of the body (1) Integumentary, (2) skeletal, (3) muscular, (4) Nervous, (5) endocrine, (6) circulatory (cardiovascular) (7) lymphatic, (8) respiratory, (9) digestive, (10) urinary, and (11) reproductive.
	14.06	Describe symptoms and common disease pathology related to each body system and the relationship of the disease process to other body systems.
	14.07	Discuss diagnostic options to identify common disease pathology and corresponding basic treatment.
	14.08	Compare structure and function of the body across the life span.
	14.09	Identify and describe dietary guidelines necessary for common diseases.
	14.10	Create a patient teaching plan which addresses dietary guidelines and special needs.
15.0	Demonstrate basic clerical/medical office duties. – The student will be able to:	
	15.01	Perform effective communication skills essential to the medical office.
	15.02	Maintain filing systems.
	15.03	Operate office equipment and perform clerical office procedures.
	15.04	Discuss principles of using Electronic Medical Record (EMR).
	15.05	Prepare and maintain medical records both manually and within the Electronic Medical Record (EMR).
	15.06	Screen and process mail.
	15.07	Schedule routine appointments and patient admissions and/or procedures both manually and within the Electronic Medical Record (EMR).
	15.08	Adhere to current government regulations, risk management and compliance within the scope of practice of a Medical Assistant practicing in the State of Florida.
	15.09	Maintain office inventory.
	15.10	Inform patients of office policies both verbally and written.
	15.11	Perform general housekeeping duties.
	15.12	Perform daily office activities both manually and within the Electronic Medical Record (EMR).

	15.13 Receive patients and visitors.
	15.14 Identify and maintain office security policies/procedures.
16.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
	16.01 Demonstrate the appropriate professional behavior of a phlebotomist.
	16.02 Explain to the patient the procedure to be used in specimen collection.
	16.03 Explain in detail the importance of identifying patients correctly when drawing blood.
	16.04 Describe the scope of practice (job skills and duties) for a phlebotomist.
	16.05 List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
	16.06 Explain the importance of continuing education in relation to certification to maintain competency and skills.
17.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
	17.01 List, classify and discuss various departments and services within the health care setting with which the phlebotomist must interact to obtain laboratory specimens from patients.
	17.02 Identify the major departments/sections within the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.
	17.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
18.0	Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist. – The student will be able to:
	18.01 Describe and define major body systems with emphasis on the circulatory system.
	18.02 List and describe the main superficial veins used in performing venipuncture.
	18.03 Locate the most appropriate site(s) for both capillary and venipuncture.
	18.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	18.05 Compare and contrast between serum and plasma as it relates to blood collection.
	18.06 Discuss hemostasis as it relates to blood collection.
19.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	19.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.

	19.02	Explain the special precautions and types of equipment needed to collect blood from a.pediatric patient.
	19.03	Identify and discuss proper use of supplies used in collecting microspecimens.
	19.04	Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	19.05	Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	19.06	Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	19.07	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
20.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:	
	20.01	Follow approved procedure for completing a laboratory requisition form.
	20.02	Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	20.03	Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL)
	20.04	Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	20.05	List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
	20.06	Perform venipuncture by evacuated tube, butterfly, and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
	20.07	Describe the correct order of draw.
	20.08	Describe the use of barcoding systems used for specimen collection.
	20.09	Perform a capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
	20.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
	20.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
	20.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
	20.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	20.14	Demonstrate the proper procedure for collecting blood cultures.
	20.15	Discuss the effects of hemolysis and methods of prevention.
	20.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.

21.0	Practice infection control following standard precautions. – The student will be able to:
21.01	Define the term "nosocomial/ hospital acquired infection."
21.02	Describe and practice procedures for infection prevention including hand washing skills.
21.03	Discuss and perform transmission based precautions.
21.04	Identify potential routes of infection and their complications.
22.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
22.01	Demonstrate good laboratory practice for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
22.02	Demonstrate knowledge of accessioning procedures.
22.03	Describe the significance of time constraints for specimen collection and delivery.
22.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
22.05	Follow protocol for accepting verbal test orders and explain procedure for obtaining signature or other form of authentication of verbal orders.
23.0	Practice quality assurance and safety. – The student will be able to:
23.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.
23.02	Demonstrate knowledge of and practice appropriate patient safety.
23.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
23.04	Follow documentation procedures for work related accidents.
23.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.
24.0	Describe the role of a medical assistant with intravenous therapy in oncology and dialysis. – The student will be able to:
24.01	Outline the principles of Intravenous Therapy.
24.02	Demonstrate knowledge of Intravenous terminology, practices and equipment.
24.03	Describe the dangers of Intravenous Treatment.
24.04	Describe role of Medical Assistant in Assisting with Intravenous Therapy.
25.0	Describe the cardiovascular system. – The student will be able to:

	25.01 Locate the heart and surrounding structures.
	25.02 Diagram and label the parts of the heart and list the functions of each labeled part.
	25.03 Trace the flow of blood through the cardiopulmonary system.
26.0	Identify legal and ethical responsibilities of an EKG aide. – The student will be able to:
	26.01 Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
	26.02 Maintain a safe and efficient work environment.
	26.03 Maintain EKG equipment so it will be safe and accurate.
27.0	Perform patient care techniques in the health care facility. – The student will be able to:
	27.01 Describe the physical preparation of the patient for EKG testing.
	27.02 Identify patient and verify the requisition order.
	27.03 Prepare patient for EKG testing.
	27.04 State precautions required when performing an EKG.
28.0	Demonstrate knowledge of, apply and use medical instrumentation modalities. – The student will be able to:
	28.01 Calibrate and standardize the cardiograph instrument.
	28.02 Identify three types of lead systems.
	28.03 State Einthoven's triangle.
	28.04 Demonstrate proper lead placement including lead placement for patients with special needs
	28.05 Demonstrate knowledge of the application of a Holter Monitor and provide patient education of its use.
	28.06 Identify artifacts and mechanical problems.
	28.07 Perform a 12 lead EKG.
	28.08 Perform a rhythm strip.
	28.09 Recognize normal sinus rhythm.
	28.10 Report any rhythm that is not normal sinus rhythm.

	28.11 Recognize a cardiac emergency as seen on the EKG.
	28.12 Use documentation skills to identify electrocardiographs.
29.0	Demonstrate basic office examination procedures. – The student will be able to:
	29.01 Prepare patients for and assist the physician with physical examinations including, but not limited to, pre and post-natal, male and female reproductive, rectal, and pediatric.
	29.02 Measure and record vital signs, recognizing abnormalities and danger signs.
	29.03 Measure and record a pulse pressure
	29.04 Measure and record an apical pulse.
	29.05 Measure and record a orthostatic blood pressure
	29.06 Record patient data.
	29.07 Instruct patient on breast and testicular self-examinations.
	29.08 Assist with pediatric procedures, including, but not limited to, weighing, measuring, and collecting specimens.
	29.09 Instruct patients regarding health care and wellness practices.
	29.10 Prepare patients for diagnostic procedures.
30.0	Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques. – The student will be able to:
	30.01 Demonstrate competence in sanitation, disinfection and sterilization.
	30.02 Identify common instruments.
	30.03 Sterilize and maintain instruments and supplies.
	30.04 Sanitize instruments.
	30.05 Wrap articles for autoclave.
	30.06 Sterilize articles in autoclave.
	30.07 Chemically disinfect articles.
	30.08 Practice infection control and contamination prevention.
	30.09 Safely handle contaminated equipment and supplies.

	30.10 Create and maintain sterile fields for dressings and minor surgery.
	30.11 Prepare for minor surgical procedures including surgical hand wash.
	30.12 Remove sutures and staples.
	30.13 Correctly dispose of contaminated materials.
31.0	Demonstrate minor treatments. – The student will be able to:
	31.01 Perform minor treatments as directed by the physician including hot and cold therapy, (which includes, but is not limited to the following: hot water bag, heating pad, hot soaks and compresses, ice bag, cold compresses and packs.)
	31.02 Assist the physician with examination, treatment, and/or minor surgery.
	31.03 Organize examination and treatment areas before, during, and after patient care.
	31.04 Perform orthopedic procedures, including but not limited to the following: crutch measurements and instruction in use of canes, crutches, walkers, and wheelchairs.
	31.05 Demonstrate the knowledge of casting procedures and supplies.
	31.06 Apply all types of roller bandages using turns as appropriate.
	31.07 Perform eye irrigations and instillations.
	31.08 Perform ear irrigations and instillations.
32.0	Demonstrate knowledge of basic diagnostic medical assisting procedures. – The student will be able to:
	32.01 Perform visual and auditory screening.
	32.02 Demonstrate knowledge of ultrasound treatment.
	32.03 Perform spirometry.
	32.04 Perform oximetry.
	32.05 Assist in the performance of a Pap and Pelvic.
33.0	Demonstrate basic X-Ray procedures. – The student will be able to:
	33.01 Describe the basic operation of X-Ray equipment and accessories.
	33.02 Describe how to maintain x-ray film files.
	33.03 Describe computed and digital radiography systems.

	33.04	Demonstrate knowledge of the principles of exposure quality.
	33.05	Evaluate X-Ray film quality.
	33.06	Describe X-Ray principles and safety practices.
	33.07	Instruct patient in preparation for basic X-Ray examinations.
	33.08	Position patients for basic x-rays.
	33.09	Use precautions and provide appropriate protection for patients and staff in the presence of ionizing radiation.
	33.10	Maintain a safe working environment in radiological work areas.
34.0	Demonstrate knowledge of pharmaceutical principles and administer medications. – The student will be able to:	
	34.01	Identify commonly administered drugs, their uses and effects.
	34.02	Use correct pharmaceutical abbreviations and terminology.
	34.03	Identify various methods and routes of drug administration.
	34.04	Instruct patients regarding self-administration of medications.
	34.05	Calculate dosage and administer pharmaceuticals to correct anatomical sites, to correct patient, by correct route of administration, at the correct time and chart correctly.
	34.06	Demonstrate knowledge of the legal and ethical standards related to the administration and the dispensing of drugs in the office setting under the doctor's supervision.
	34.07	Demonstrate knowledge of emergency medications for various body systems.
	34.08	Identify the dangers and complications associated with drug administration
	34.09	Report medication errors.
	34.10	Demonstrate appropriate techniques to:
		34.10.01 Prepare and administer non-parenteral medications (solid & liquids).
		34.10.02 Prepare and administer parenteral medications.
		34.10.03 Reconstitute powdered drugs.
		34.10.04 Prepare injections from ampules and vials.
		34.10.05 Apply the Seven Rights of Drug Administration

35.0	Perform CLIA-waived diagnostic clinical laboratory procedures. --The students will be able to:
35.01	Recognize signs and symptoms that may indicate to the physician a need for laboratory testing.
35.02	Describe the criteria used by Food and Drug Administration (FDA) to classify a test as “CLIA waived” and the regulatory constraints on test performance.
35.03	Explain the methods of quality control for CLIA-waived testing, identify acceptable and unacceptable control results, and describe specific corrective action required when results are unacceptable.
35.04	Demonstrate proper technique for the collection of urine, capillary whole blood (finger/heel stick), culture material (throat/nasal swab) and other specimen types required for CLIA-waived tests.
35.05	Instruct patients in the proper collection of urine (clean catch, mid-stream), sputum and stool specimens.
35.06	Perform CLIA-waived occult blood tests.
35.07	Perform CLIA-waived urinalysis testing including color and turbidity assessment, specific gravity and reagent test strips.
35.08	Perform CLIA-waived hematology tests (e.g. - hemoglobin, hematocrit).
35.09	Perform CLIA-waived chemistry tests (e.g. - glucose, cholesterol)
35.10	Perform CLIA-waived pregnancy tests.
35.11	Perform CLIA-waived infectious disease testing (e.g. – strep screen, mono test, influenza A/B)
35.12	Explain Meaningful Use and how it affects the role of the medical assistant regarding the input of laboratory test orders in the EMR.
36.0	Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision– The student will be able to:
36.01	Explain the CLIA-exemption for physician office laboratories
36.02	Define the term “Provider Performed Microscopy” (PPM) and the regulatory constraints on test performance.
36.03	Demonstrate the operation of a compound microscope using direct and oil immersion lens.
36.04	Prepare a urine sediment for microscopic exam.
36.05	Differentiate between gram positive and gram negative organisms.
36.06	Explain the purpose of Wright’s stained blood smears.
37.0	Demonstrate knowledge of emergency preparedness and protective practices. --The student will be able to:
37.01	Maintain and operate emergency equipment and supplies.
37.02	Evaluate the work environment to identify safe vs. unsafe working conditions.

	37.03	Participate in a mock environmental exposure event and document steps taken.
	37.04	Explain an evacuation plan for a physician's office.
	37.05	Maintain a current list of community resources for emergency preparedness.
38.0	Perform administrative office duties. – The student will be able to:	
	38.01	Execute data management using Electronic Medical Record (EMR) including, but not limited to, patient registration, appointment scheduling, charting, billing and insurance processing, procedure and diagnostic coding, ordering and monitoring patient testing, medication and prescription orders, keyboarding and correspondence, and performing an office inventory.
	38.02	Explain Meaningful Use and how it applies to the medical assistant regarding the documentation of physician orders in the Electronic Medical Record (EMR).
	38.03	Execute non EMR data management including, but not limited to, selecting appropriate procedure and diagnostic codes, process insurance data and claims, develop and maintain billing and collection systems, and keyboarding documents.
	38.04	Perform various financial procedures, including, but not limited to, billing and collection procedures, payroll procedures, and checkbook procedures.
	38.05	Maintain personnel records.
39.0	Perform administrative and general skills – the student will be able to:	
	39.01	Demonstrate proper and professional telephone technique.
	39.02	Recognize and respond to verbal communication.
	39.03	Recognize and respond to non-verbal communication.
	39.04	Maintain confidentiality and adhere to HIPAA regulations.
	39.05	Document both manually and electronically appropriately.
	39.06	Schedule appointments manually and electronically accurately.
	39.07	Schedules inpatient and/or outpatient procedures accurately.
	39.08	Organize patients' medical records.
	39.09	File medical records accurately.
	39.10	Prepare bank deposits accurately.
	39.11	Post entries on manual/electronic day sheet.
	39.12	Perform billing and /or ICD-9/10 and/or CPT coding.

	39.13 Greet patients courteously and professionally.
	39.14 Obtain or verify patient precertification or preauthorization.
	39.15 Demonstrate safety and quality assurance in the workplace.
40.0	Perform clinical and general skills – the student will be able to:
	40.01 Demonstrate aseptic hand washing technique.
	40.02 Dispose of bio-hazardous waste in appropriate containers.
	40.03 Adhere to sterilization techniques according to standards.
	40.04 Practice standard precautions.
	40.05 Demonstrate venipuncture and/or capillary punctures.
	40.06 Instruct patients in the collection of specimens.
	40.07 Demonstrate electrocardiography.
	40.08 Demonstrate respiratory testing.
	40.09 Demonstrate CLIA waived testing.
	40.10 Stage patients and obtain vital signs.
	40.11 Obtain and record patient histories.
	40.12 Prepare and maintain examination and treatment area(s).
	40.13 Prepare patient for examinations and/or minor office procedures.
	40.14 Assist with examinations and/or minor office procedures.
	40.15 Prepare medications and/or perform non-intravenous injections.
	40.16 Provide and document patient education.
	40.17 Accurately record and report laboratory tests.
41.0	Display professional work habits integral to medical assisting. – the student will be able to:
	41.01 Communicate appropriately in healthcare settings by listening, writing, speaking and presenting with professional demeanor.

41.02	Collaborate, communicate and interact professionally with other healthcare professionals utilizing technology.
41.03	Contribute to team efforts by fulfilling responsibilities and valuing diversity.
41.04	Explore networking opportunities through professional associations.
41.05	Exercise proper judgment and critical thinking skills in decision making.
41.06	Adapt to changing organizational environments with flexibility.
41.07	Build a portfolio reflecting experiences and skills gained during the externship.
41.08	Report as expected, on time, appropriately dressed and groomed and ready to work.
41.09	Model acceptable work habits as defined by company policy.
41.10	Complete and follow through on tasks using time management skills and take initiative as warranted.
41.11	Respond appropriately and quickly to patient’s needs and concerns.
41.12	Practice etiquette and social sensitivity in face to face interaction, on the telephone and the Internet.
41.13	Actively adhere to policies and procedures that protect the patient’s confidentiality and privacy.
41.14	Display an understanding of resources related to patients’ healthcare needs.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Although it is not required, it is strongly recommended that the programs meet the Standards and Guidelines of an Accredited Educational Program for the Medical Assistant adopted by the American Association of Medical Assistants and the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or the American Medical Technologist and the Accrediting Bureau of Health Education Schools (ABHES).

For further information contact:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
Phone: 727-210-2350
Fax: 727-210-2354

Accrediting Bureau of Health Education Schools (ABHES)
777 Leesburg Pike, Suite 312
N. Falls, VA 22043
(703) 917-9503

This Program Will Also Be In Accordance With Florida Statute Medical Assistants, 458.3485 F.S.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Program completers of a CAAHEP or ABHES accredited program are eligible to take the American Association of Medical Assistants' Certification Examination (CMA) or the American Medical Technologists' Certification Examination (RMA). For further information contact:

American Association of Medical Assistants (AAMA)
20 North Wacker Drive, Suite 1575
Chicago, Illinois 60606 (312/899-1500)
Or
American Medical Technologist (AMT)
10700 West Higgins Road, Suite 150
Rosemont, Illinois 60018 (800 275-1268)

The Medical Assistant graduate may be prepared to take the Basic X-Ray Machine Operator State exam.
Contact: Bureau of Radiation Control
4052 Bald Cypress Way, Bin #C85 Tallahassee, FL 32399-3252
Phone: (850) 245-4910

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Pharmacy Technician-ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	H170700
CIP Number	0351080503	0351080507
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	40 credit hours	1050 clock hours
CTSO	HOSA: Future Health Professionals; Skills USA	
SOC Codes (all applicable)	29-2052 Pharmacy Technicians	
Basic Skills Level:	Mathematics: 11 Language: 10 Reading: 10	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as pharmacy technicians SOC 29-2052

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

The content includes but is not limited to metric system, medical terminology, medicinal drugs, pharmaceutical compounding, USP 795 standards, sterile techniques, USP 797 standards, maintenance of inventory, IV preparation, receiving and handling of hazardous materials, preparing purchase orders, receiving and checking supplies purchased, printing labels, typing prescription labels, delivering medications, pricing prescription

drug orders and supplies, prepackaging unit dose packages, patient record systems, control records, data processing automation in pharmacy, computer application, employability skills, leadership and human relations skills, health and safety, including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

Regulated Programs

This program must be approved by the Board of Pharmacy. Program completers who wish to work as Pharmacy Technicians in the State of Florida must register with the Board of Pharmacy (465.014 F.S.).

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 2 occupational completion points and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	90 hours	31-9099
B	PTN0084	Pharmacy Technician 1	360 hours	29-2052
	PTN0085	Pharmacy Technician 2	300 hours	
	PTN0086	Pharmacy Technician 3	300 hours	

College Credit

When offered at the college level, this ATD program is part of the Pharmacy Management (AS/AAS) 1351080502/0351080502) and has a program length of 40 credits.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice human relations.
13.0 Identify pharmaceutical abbreviations and terminology as related to Community Pharmacy Practice.
14.0 Identify medical and legal considerations.
15.0 Perform clerical duties as related to Pharmacy Practice.
16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology.
17.0 Demonstrate knowledge of inventory control.
18.0 Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice.
19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology.
20.0 Prepare and deliver medications.
21.0 Prepackage unit dose medications.
22.0 Prepare sterile products.

Florida Department of Education
Student Performance Standards

Program Title: **Pharmacy Technician-ATD**
PSAV Number: **H170700**

When this program is offered at the PSAV level, the following organization of courses, standards, and benchmarks apply.

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: PTN0084 **Occupational Completion Point: B** **Pharmacy Technician 1 – 360 Hours – SOC Code 29-2052**	
12.0	Practice human relation skills.-The student will be able to:
	12.01 Explore the meaning and duties of a pharmacy technician.
	12.02 Explore the organizational flow of responsibilities within a pharmacy setting.
	12.03 Understand the importance of developing and maintaining a professional rapport with co-workers.
	12.04 Identify pharmacy organizations and their role in the profession.
	12.05 Demonstrate an understanding of Continuing Education (CE) requirements for pharmacy technicians and how to obtain them.
	12.06 Identify the current trends and perspectives in the pharmacy practice.
	12.07 Identify the means by which the application of team building can facilitate change within the pharmacy working environment.
13.0	Identify pharmaceutical abbreviations and terminology as related to pharmacy practice--The student will be able to:
	13.01 Utilize pharmaceutical medical terminology.

	13.02 Analyze the major symbols and abbreviations used on prescriptions and state the meaning.
14.0	Identify medical and legal considerations--The student will be able to:
	14.01 Articulate the significance and scope of current national and Florida law and administrative rules as they relate to the practice of the pharmacy technician.
	14.02 Convey an understanding of medical legal concepts as they relate to the practice of the pharmacy technician.
	14.03 Explain the need for accurate pharmacy documentation and recordkeeping.
	14.04 Justify the importance of HIPAA in pharmacy practice.
	14.05 Convey an understanding of the patient's Bill of Rights as it relates to pharmacy.
	14.06 Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
	14.07 Compare and contrast between controlled substances and their applicable regulations.
	14.08 Convey an understanding of the Florida Right to Know Act with respect to hazardous materials.
	14.09 Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
	14.10 Understand and explain the legal requirements for final check by the pharmacist
	14.11 Classify activities performed by pharmacy professionals as those that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists. For each activity, explain the rationale for the classification.
15.0	Perform clerical duties as related to Pharmacy Practice.--The student will be able to:
	15.01 Design and evaluate pharmacy dispensing processes step-by-step in retail practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors.
	15.02 Demonstrate computer applications in processing pharmacy prescription data.
	15.03 Identify applications of E-Prescribing and facsimile.
	15.04 Utilize and apply interactive communication skills while gathering of accurate information from patients and from other healthcare professionals
	15.05 Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements
	15.06 Create, complete and maintain patient profiles.
	15.07 Demonstrate telephone communication skills and routine inquiries.
	15.08 Convey an understanding of appropriate practice standards pertaining to patient counseling.
	15.09 Demonstrate the knowledge of systems used in maintaining pharmacy records.

	15.10 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prescription processing.
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology--The student will be able to:
	16.01 Define the major classifications of pharmaceuticals.
	16.02 Categorize at least one official compendia of standards for quality and purity of drugs and authoritative information on dosage, administration and therapeutic equivalents.
	16.03 Analyze pharmacy reference manuals and web sites.
	16.04 Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory control--The student will be able to:
	17.01 Convey an understanding of industry standards in purchasing pharmaceutical supplies.
	17.02 Maintain controlled substance inventory.
	17.03 Display knowledge of prescription pricing systems used in pharmacy.
	17.04 Maintain stock inventory, communicate shortages and seek alternatives.
	17.05 Prepare electronic purchase orders.
	17.06 Accurately perform the process of purchasing, receiving, storing, distributing and disposing of pharmaceutical supplies.
	17.07 Convey an understanding of industry standards in management of Investigational Drugs.
18.0	Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice--The student will be able to:
	18.01 Convey an understanding of United States Pharmacopeia (USP) 795 standards.
	18.02 Convert measurements within the apothecary, avoirdupois, household and metric systems.
	18.03 Perform common pharmaceutical calculations.
	18.04 Use common pharmaceutical weighing equipment.
	18.05 Use common pharmaceutical volume measurement equipment.
	18.06 Explain the technique of preparing common pharmaceutical compounds.
	18.07 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of non-sterile products.

Course Number: PTN0085 **Occupational Completion Point: B** **Pharmacy Technician 2 – 300 Hours – SOC Code 29-2052**	
19.0	Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology--The student will be able to:
19.01	Predict physical and chemical incompatibilities utilizing chemistry properties.
19.02	Describe electrolyte balances.
19.03	Relate the general sources, classes, indications, actions, routes and side effects of drugs.
19.04	Demonstrate an understanding of common adult doses of medications and respective contraindications.
20.0	Prepare and deliver medications--The student will be able to:
20.01	Read and prepare medication orders correctly.
20.02	Design and evaluate pharmacy dispensing processes step-by-step in institutional practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors
20.03	Check all new orders with medications listed on profiles while noting any discrepancies.
20.04	Utilize special precautions in the preparation of medications for pediatric patients.
20.05	Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.
20.06	Demonstrate the proper technique of preparing pharmaceutical compounds. .
20.07	Demonstrate the ability to correctly fill and deliver medication cassettes.
20.08	Collect data from medication administration record and drug use and evaluation form.
20.09	Demonstrate use of automated medication dispensing equipment.

Course Number: PTN0086 **Occupational Completion Point: B** **Pharmacy Technician 3 – 300 Hours – SOC Code 29-2052**	
21.0	Prepackage unit dose medications--The student will be able to:
21.01	Locate correct stock container.
21.02	Measure, count required individual doses of medication.
21.03	Label with required information utilizing “tall man” lettering.

	21.04	Operate unit dose packaging equipment.
	21.05	Place individual dose in appropriate containers, ~~re~~ prepackage in predetermined quantities.
	21.06	Prepackage unit dose hazardous drugs.
	21.07	Record prepackaged medication data correctly.
	21.08	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prepackaging unit dose medication.
22.0	Prepare sterile products --The student will be able to:	
	22.01	Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
	22.02	Compare medication order with label on vial and check expiration date of product.
	22.03	Calculate drug dosage for parenteral use.
	22.04	Articulate common drug incompatibilities.
	22.05	Reconstitute parenteral medications.
	22.06	Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.
	22.07	Use aseptic technique to withdraw medication from an ampule.
	22.08	Prepare parenteral solutions and discuss current intravenous preparation industry trends.
	22.09	Perform the preparation of total Parenteral Nutrition solutions.
	22.10	Perform the preparation of chemotherapeutic agents using proper safety techniques.
	22.11	Utilize the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
	22.12	Place label on IV solution container and keep records.
	22.13	Perform quality control check.
	22.14	Convey an understanding of storage requirements of reconstituted IV solutions.
	22.15	Convey an understanding of the proper disposal of hazardous Drugs.
	22.16	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.

Florida Department of Education
Student Performance Standards

Program Title: **Pharmacy Technician-ATD**
ATD CIP Number: **0351080503**
SOC Code(s): **29-2052**

When this program is offered at the college level, the following standards and benchmarks apply:

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Pharmacy Technician (12-22)	
12.0	Practice human relation skills.-The student will be able to:
12.01	Explore the meaning and duties of a pharmacy technician.
12.02	Explore the organizational flow of responsibilities within a pharmacy setting.
12.03	Understand the importance of developing and maintaining a professional rapport with co-workers.
12.04	Identify pharmacy organizations and there role in the profession.
12.05	Demonstrate an understanding of Continuing Education (CE) requirements for pharmacy technicians and how to obtain them.
12.06	Identify the current trends and perspectives in the pharmacy practice.
12.07	Identify the means by which the application of team building can facilitate change within the pharmacy working environment.
13.0	Identify pharmaceutical abbreviations and terminology as related to pharmacy practice--The student will be able to:
13.01	Utilize pharmaceutical medical terminology.
13.02	Analyze the major symbols and abbreviations used on prescriptions and state the meaning.
14.0	Identify medical and legal considerations--The student will be able to:
14.01	Articulate the significance and scope of current national and Florida law and administrative rules as they relate to the practice of the pharmacy technician.

	14.02 Convey an understanding of medical legal concepts as they relate to the practice of the pharmacy technician.
	14.03 Explain the need for accurate pharmacy documentation and recordkeeping.
	14.04 Justify the importance of HIPAA in pharmacy practice.
	14.05 Convey an understanding the patient's Bill of Rights as it relates to pharmacy.
	14.06 Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
	14.07 Compare and contrast between controlled substances and their applicable regulations.
	14.08 Convey an understanding of the Florida Right to Know Act with respect to hazardous materials.
	14.09 Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
	14.10 Understand and explain the legal requirements for final check by the pharmacist
	14.11 Classify activities performed by pharmacy professionals as those that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists. For each activity, explain the rationale for the classification.
15.0	Perform clerical duties as related to Pharmacy Practice.--The student will be able to:
	15.01 Design and evaluate pharmacy dispensing processes step-by-step in retail practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors.
	15.02 Demonstrate computer applications in processing pharmacy prescription data.
	15.03 Identify applications of E-Prescribing and facsimile.
	15.04 Utilize and apply interactive communication skills while gathering of accurate information from patients and from other healthcare professionals
	15.05 Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements
	15.06 Create, complete and maintain patient profiles.
	15.07 Demonstrate telephone communication skills and routine inquiries.
	15.08 Convey an understanding appropriate practice standards pertaining to patient counseling.
	15.09 Demonstrate the knowledge of systems used in maintaining pharmacy records.
	15.10 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prescription processing.
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology--The student will be able to:
	16.01 Define the major classifications of pharmaceuticals.

	16.02 Categorize at least one official compendia of standards for quality and purity of drugs and authoritative information on dosage, administration and therapeutic equivalents.
	16.03 Analyze pharmacy reference manuals and web sites.
	16.04 Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory control--The student will be able to:
	17.01 Convey an understanding of industry standards in purchasing pharmaceutical supplies.
	17.02 Maintain controlled substance inventory.
	17.03 Display knowledge of prescription pricing systems used in pharmacy.
	17.04 Maintain stock inventory, communicate shortages and seek alternatives.
	17.05 Prepare electronic purchase orders.
	17.06 Accurately perform the process of purchasing, receiving, storing, distributing and disposing of pharmaceutical supplies.
	17.07 Convey an understanding of industry standards in management of Investigational Drugs.
18.0	Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice--The student will be able to:
	18.01 Convey an understanding of United States Pharmacopeia (USP) 795 standards.
	18.02 Convert measurements within the apothecary, avoirdupois, household and metric systems.
	18.03 Perform common pharmaceutical calculations.
	18.04 Use common pharmaceutical weighing equipment.
	18.05 Use common pharmaceutical volume measurement equipment.
	18.06 Explain the technique of preparing common pharmaceutical compounds.
	18.07 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of non-sterile products.
19.0	Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology--The student will be able to:
	19.01 Predict physical and chemical incompatibilities utilizing chemistry properties.
	19.02 Describe electrolyte balances.
	19.03 Relate the general sources, classes, indications, actions, routes and side effects of drugs.

	19.04 Demonstrate an understanding of common adult doses of medications and respective contraindications.
20.0	Prepare and deliver medications--The student will be able to:
	20.01 Read and prepare medication orders correctly.
	20.02 Design and evaluate pharmacy dispensing processes step-by-step in institutional practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors
	20.03 Check all new orders with medications listed on profiles while noting any discrepancies.
	20.04 Utilize special precautions in the preparation of medications for pediatric patients.
	20.05 Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.
	20.06 Demonstrate the proper technique of preparing pharmaceutical compounds. .
	20.07 Demonstrate the ability to correctly fill and deliver medication cassettes.
	20.08 Collect data from medication administration record and drug use and evaluation form.
	20.09 Demonstrate use of automated medication dispensing equipment.
21.0	Prepackage unit dose medications--The student will be able to:
	21.01 Locate correct stock container.
	21.02 Measure, count required individual doses of medication.
	21.03 Label with required information utilizing “tall man” lettering.
	21.04 Operate unit dose packaging equipment.
	21.05 Place individual dose in appropriate containers, ~~re~~ prepackage in predetermined quantities.
	21.06 Prepackage unit dose hazardous drugs.
	21.07 Record prepackaged medication data correctly.
	21.08 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prepackaging unit dose medication.
22.0	Prepare sterile products --The student will be able to:
	22.01 Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
	22.02 Compare medication order with label on vial and check expiration date of product.

22.03	Calculate drug dosage for parenteral use.
22.04	Articulate common drug incompatibilities.
22.05	Reconstitute parenteral medications.
22.06	Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.
22.07	Use aseptic technique to withdraw medication from an ampule.
22.08	Prepare parenteral solutions and discuss current intravenous preparation industry trends.
22.09	Perform the preparation of total Parenteral Nutrition solutions.
22.10	Perform the preparation of chemotherapeutic agents using proper safety techniques.
22.11	Utilize the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
22.12	Place label on IV solution container and keep records.
22.13	Perform quality control check.
22.14	Convey an understanding of storage requirements of reconstituted IV solutions.
22.15	Convey an understanding of the proper disposal of hazardous Drugs.
22.16	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical practicum experiences are an integral part of this program.

Special Notes

Due to the clinical experiences students are engaged in through the program and to ensure the safety of both the students and the patients the recommended student to instructor ratio in the classroom is 20:1 and in the lab is 4:1.

It is recommended that program completers take national pharmacy technician certification exam offered by the Pharmacy Technician Certification Board, 2215 Constitution Ave, Washington, DC 20037-2985, (202) 429-7576. This certification is offered three times annually.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C. the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 11, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 40 credits. When offered at a technical center the standard length of this program is 1050 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Paramedic**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090405
Program Type	College Credit Certificate (CCC)
Program Length	42 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics

Purpose

This certificate program is part of the Emergency Medical Services AS degree program (1351090402).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This is an instructional program that prepares students for employment as paramedics SOC 29-2041 (Emergency Medical Technicians & Paramedics) to function at the basic pre-hospital paramedic level and treat various medical/trauma conditions, using appropriate equipment and materials. The program prepares students for certification as paramedics in accordance with Chapter 64J-1 of the Florida Administrative Code. The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation, National EMS Educational Standards for Paramedic. This is the second level for a career in emergency medical services in Florida.

The content includes but is not limited to: patient assessment, advanced airway management, cardiovascular emergencies, external and internal bleeding and shock, traumatic injuries, fractures, dislocations, sprains, poisoning, heart attack, stroke, diabetes, pharmacology, medication administration, respiratory emergencies, endocrine emergencies, acute abdomen, communicable diseases, patients with abnormal behavior,

substance abuse, the unconscious state, emergency childbirth, pediatric and geriatric emergencies, burns, environmental hazards, communications, documentation, extrication, mass casualty incident, incident command system, and transportation of patient.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Regulated Programs

This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

A Paramedic program must be taught by faculty meeting the qualifications as set forth in 64J-1.020 F. A. C.

Florida Statute 401.2701 requires that the instructor-student ratio should not exceed 1:6.

Field internship shall include a competency-based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include supervised experience in the field setting with a certified ALS transport EMS agency or ALS fire department. Refer to 64J-1.20 for additional requirements of the field internship inside of the paramedic program.

Pursuant F.S.401.2701 to Paramedic programs must be available only to Florida-certified emergency medical technicians or an emergency medical technician applicant who will obtain Florida certification prior to completion of phase one of the paramedic program and EMT certification must be maintained through the program.

It is strongly recommended this program be accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs). Beginning January 1, 2013, National Registry for Emergency Medical Technicians (NREMT) will require students applying for Paramedic National certification to be from a CAAHEP/CoAEMSP accredited program.

The Student Performance Standards for Paramedic were adapted and condensed from the most current US Department of Transportation, National EMS Educational Standards for the Paramedic. Administrators and instructors should refer to these materials for additional detail.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems.
02.0 Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice.
03.0 Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness.
04.0 Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing.
05.0 Demonstrate a complex depth, comprehensive breadth of EMS communication system.
06.0 Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles.
07.0 Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS.
08.0 Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems.
09.0 Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals.
10.0 Demonstrate a comprehensive knowledge of pathophysiology of major systems.
11.0 Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development.
12.0 Demonstrate the application of fundamental knowledge of principles of public health.
13.0 Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology.
14.0 Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic.
15.0 Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic.
16.0 Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic.
17.0 Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation.
18.0 Demonstrate a complex depth, comprehensive breadth of scene management.
19.0 Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations.
20.0 Demonstrate a complex depth, comprehensive breath of the components of history taking.
21.0 Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment.
22.0 Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic.
23.0 Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations.
24.0 Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints.
25.0 Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups.
26.0 Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups.
27.0 Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups.
28.0 Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups.
29.0 Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups.
30.0 Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups.
31.0 Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups.

32.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups.
33.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
34.0 Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups.
35.0 Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups.
36.0 Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups.
37.0 Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups.
39.0 Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure.
40.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
41.0 Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups.
42.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups.
43.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups.
44.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
45.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups.
48.0 Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups.
49.0 Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups.
50.0 Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries.
51.0 Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic.
52.0 Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic.
53.0 Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic.
54.0 Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic.

55.0 Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic.
56.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
57.0 Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system.
58.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
59.0 Demonstrate a complex depth, comprehensive breadth of air Medical transport risks, needs and advantages.
60.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
61.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Paramedic**
CIP Number: **0351090405**
Program Length: **42 credit hours**
SOC Code(s): **29-2041**

The Paramedic standards and benchmarks in this framework include all of the content, knowledge and skills at the EMT level in addition to the Paramedic objectives. For those standards that state "Review EMT standards and benchmarks", please refer to the EMT curriculum framework for specific objectives.

This certificate program is part of the Emergency Medical Services AS degree program (1351090402). At the completion of this program, the student will be able to:	
01.0	**EMS Systems:** Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems. –The student will be able to:
01.01	Define terms, including but not limited to: EMS systems, licensure, registration, profession, professionalism, health care professional, ethics, peer review, medical direction and protocols.
01.02	Describe the attributes of a paramedic as a health care professional.
01.03	Explain paramedic licensure/ certification, recertification, and reciprocity requirements in his or her state.
01.04	Evaluate the importance of maintaining one's paramedic license/ certification.
01.05	Describe the benefits of paramedic continuing education.
01.06	Discuss the role of national associations and of a national registry agency.
01.07	Discuss Chapter 401, Florida Statutes, and Chapter 64-E, Florida Administrative Code
01.08	Discuss the roles of various EMS standard setting agencies.
01.09	Identify the standards (components) of an EMS System as defined by the National Highway Traffic Safety Administration.
01.10	Describe examples of professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
01.11	Describe the importance of quality EMS research to the future of EMS.
01.12	Describe the role of the EMS physician in providing medical direction.

	01.13	Provide examples of local protocols.
	01.14	Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.
	01.15	Define the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
	01.16	Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
	01.17	Advocate the need for injury prevention, including abusive situations.
	01.18	Exhibit professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
	01.19	Discuss the diverse types of EMS services and how they affect the delivery of advanced pre-hospital care
02.0	**Research:** Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice. –The student will be able to:	
	02.01	Interpret results, reach conclusions, and generate new ideas based on results
	02.02	Discuss the importance of evidenced based medicine and medical research and its role in refining EMS practices.
03.0	**Workforce Safety and Wellness:** Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness. –The student will be able to:	
	03.01	Discuss the concept of wellness and its benefits.
	03.02	Discuss how cardiovascular endurance, muscle strength, and flexibility contribute to physical fitness.
	03.03	Describe the impact of shift work on circadian rhythms.
	03.04	Discuss how periodic risk assessments and knowledge of warning signs contribute to cancer and cardiovascular disease prevention.
	03.05	Differentiate proper from improper body mechanics for lifting and moving patients in emergency and non-emergency situations.
	03.06	Describe the problems that a paramedic might encounter in a hostile situation and the techniques used to manage the situation.
	03.07	Describe the equipment available for self-protection when confronted with a variety of adverse situations.
	03.08	Describe the three phases and factors that trigger the stress response.
	03.09	Differentiate between normal/ healthy and detrimental reactions to anxiety and stress.
	03.10	Identify and describe the defense mechanisms and management techniques commonly used to deal with stress.
	03.11	Describe the components of critical incident stress management (CISM).

	03.12 Describe the needs of the paramedic when dealing with death and dying.
	03.13 Discuss the importance of standard precautions and body substance isolation practices.
	03.14 Defend the need to treat each patient as an individual, with respect and dignity.
	03.15 Defend the need to respect the emotional needs of dying patients and their families.
	03.16 Identify the human, environmental, and socioeconomic impact of unintentional and alleged unintentional events.
	03.17 Identify health hazards and potential crime areas within the community.
	03.18 Describe the importance of effective documentation as one justification for funding of prevention programs.
04.0	**Documentation:** Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing. – The student will be able to:
	04.01 Identify the general principles regarding the importance of EMS documentation and ways in which documents are used.
	04.02 Identify and use medical terminology correctly.
	04.03 Record all pertinent administrative information to a given standard
	04.04 Analyze the documentation for accuracy and completeness, including spelling.
	04.05 Describe the differences between subjective and objective elements of documentation.
	04.06 Describe the potential consequences of illegible, incomplete, or inaccurate documentation.
	04.07 Describe the special considerations concerning patient refusal of transport.
	04.08 Explain how to properly record direct patient or bystander comments.
	04.09 Describe the special considerations concerning mass casualty incident documentation.
	04.10 Identify and record the pertinent, reportable clinical data of each patient interaction.
	04.11 Note and record pertinent negative clinical findings.
	04.12 Demonstrate proper completion of an EMS event record used locally.
05.0	**EMS Communication:** Demonstrate a complex depth, comprehensive breadth of EMS communication system. –The student will be able to:
	05.01 Identify the role of verbal, written, and electronic communications in the provision of EMS.
	05.02 Describe the phases of communications necessary to complete a typical emergency.

	05.03 Identify the importance of proper terminology when communicating during an emergency.
	05.04 List factors that impede effective verbal and written communications.
	05.05 List factors which enhance verbal and written communications.
	05.06 Recognize the legal status of written communications related to an emergency.
	05.07 Identify the components of the local EMS communications system and describe their function and use.
	05.08 Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.
	05.09 Describe the functions and responsibilities of the Federal Communications Commission.
	05.10 Describe how an emergency medical dispatcher (EMD) functions as an integral part of the EMS team.
	05.11 List appropriate information to be gathered by the Emergency Medical Dispatcher.
	05.12 Describe and organize a list of patient assessment information in the correct order for electronic transmission to medical direction according to the format used locally.
	05.13 State the proper procedures and sequence for delivery of patient information to other healthcare professionals.
06.0	**Therapeutic Communication:** Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles. – The student will be able to:
	06.01 Identify internal and external factors that affect a patient/ bystander interview conducted by a paramedic.
	06.02 Review the strategies for developing patient rapport.
	06.03 Summarize the methods to assess mental status based on interview techniques.
	06.04 Discuss the strategies for interviewing a patient who is unmotivated to talk.
	06.05 Summarize developmental considerations of various age groups that influence patient interviewing.
	06.06 Review unique interviewing techniques necessary to employ with patients who have special needs.
	06.07 Discuss interviewing considerations used by paramedics in cross-cultural communications.
07.0	**Medical/Legal and Ethics:** Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS. –The student will be able to:
	07.01 Differentiate between legal and ethical responsibilities.
	07.02 Differentiate between licensure and certification as they apply to the paramedic.
	07.03 List the specific problems or conditions encountered while providing care that a paramedic is required to report, and identify in each instance to whom the report is to be made.

	07.04	Review terms, including but not limited to, the following: abandonment, battery, breach of duty, consent (expressed, implied, informed, voluntary), DNR orders, duty to act, emancipated minor, false imprisonment, liability, libel, negligence, proximate cause, scope of practice, slander, and tort.
	07.05	Differentiate between the scope of practice and the standard of care for paramedic practice.
	07.06	Discuss the concept of medical direction, including off-line medical direction and on-line medical direction, and its relationship to the standard of care of a paramedic.
	07.07	Review the four elements that must be present in order to prove negligence.
	07.08	Review the legal concept of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
	07.09	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
	07.10	Review consent to include expressed, informed, implied, and involuntary.
	07.11	Given a scenario, demonstrate appropriate patient management and care techniques in a refusal of care situation.
	07.12	Differentiate between assault and battery and describe how to avoid each.
	07.13	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
	07.14	Describe the importance of providing accurate documentation (oral and written) in substantiating an incident.
	07.15	Describe the characteristics of a patient care report required to make it an effective legal document.
	07.16	Describe the criteria necessary to honor an advance directive in Florida.
	07.17	Demonstrate an understanding of the Paramedic's role in mandatory reporting associated with abused, neglected and/or assaulted patient.
08.0	**Anatomy and Physiology:** Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems. – The student will be able to:	
	08.01	Review the EMT standards and benchmarks for the Anatomy & Physiology and apply an integration of a complex depth and comprehensive breath of knowledge of the anatomy and physiology of all human body systems.
09.0	**Medical Terminology:** Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals. –The student will be able to:	
	09.01	Review the EMT standards and benchmarks for the medical terminology and apply an integration of comprehensive anatomical and medical terminology and abbreviations with colleagues and other health care professionals.
10.0	**Pathophysiology:** Demonstrate a comprehensive knowledge of pathophysiology of major systems. –The student will be able to:	
	10.01	Describe the factors that precipitate disease in the human body including familial diseases and risk factors.
	10.02	Describe environmental risk factors.

10.03	Review terms including but not limited to: cardiogenic, hypovolemic, neurogenic, anaphylactic and septic shock.
10.04	Describe multiple organ dysfunction syndrome (MODS)
10.05	Discuss the correlation of pathophysiology with disease processes.
10.06	Identify the Major classes of cells.
10.07	Describe and discuss the cellular structure, function and components.
10.08	Define the types of body tissues.
10.09	Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury and cellular death/necrosis.
10.10	Discuss the cellular environment including distribution of body fluids, aging and distribution of body fluids, water movement between ICF and ECF, water movement between plasma and interstitial fluid, alterations in water movement - edema, water balance and the role of electrolytes, and acid-base balances.
10.11	Describe genetics and familial diseases including factors causing disease, analyzing risk, combined effects and interaction among risk factors, and common familial disease and associated risk factors.
10.12	Define hypoperfusion and discuss pathogenesis, types of shock, multiple organ dysfunction syndrome, cellular metabolism impairment.
10.13	Describe the self –defense mechanisms including the lines of defense, characteristics of the immune response, introduction of the immune response, humoral immune response, cell-mediated immune response, cellular interactions in the immune response, fetal and neonatal immune function and aging and the immune response in the elderly.
10.14	Describe the inflammation process including the acute inflammatory response, mast cells plasma protein systems, cellular components of inflammation, cellular products, systemic response of acute inflammation, chronic inflammation responses, local inflammation responses, phases of resolution and repair, and aging and self defense mechanisms.
10.15	Discuss variances in immunity and inflammation including hypersensitivity, allergy, autoimmunity and isoimmunity, and immunity and inflammation deficiencies.
10.16	Discuss blood volume circulation disturbances
10.17	Describe the buffer system
11.0	**Life Span Development:** Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development. –The student will be able to:
11.01	Compare, contrast and analyze the physiological and psychosocial characteristics of the following age groups to an early adult: 11.01.01 an infant 11.01.02 a toddler 11.01.03 pre-school child 11.01.04 school aged child 11.01.05 adolescent 11.01.06 middle aged adult

12.0	**Public Health:** Demonstrate the application of fundamental knowledge of principles of public health. –The student will be able to:
12.01	Review the EMT standards and benchmarks for the public health and apply a fundamental knowledge of the principles of public health, epidemiology, health promotion and illness and injury prevention.
13.0	**Principles of Pharmacology:** Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology. –The student will be able to:
13.01	Differentiate among the chemical, generic (nonproprietary), and trade (proprietary) names of a drug.
13.02	List the four main sources of drug products.
13.03	Describe how drugs are classified.
13.04	List legislative acts controlling drug use and abuse in the United States.
13.05	Differentiate among Schedule I, II, III, IV, and V substances.
13.06	Use reference materials to research medications.
13.07	Discuss standardization of drugs.
13.08	Discuss investigational drugs, including the Food and Drug Administration (FDA) approval process and the FDA classifications for newly approved drugs.
13.09	Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
13.10	List and describe general properties of drugs.
13.11	List and describe liquid and solid drug forms.
13.12	List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
13.13	Describe the process called pharmacokinetics, and pharmacodynamics, including theories of drug action, drug-response relationship, factors altering drug responses, predictable drug responses, iatrogenic drug responses, and unpredictable adverse drug responses.
13.14	Describe specific medications used by rescuers in the prehospital setting.
13.15	Describe common unintended adverse effects of medication administration.
13.16	Discuss the prevention, recognition and management of adverse medication reactions.
13.17	Anticipate how various factors, such as age, body mass, and others, can alter drug responses.
13.18	Select the optimal medication and method of medication administration for patients with a particular clinical condition or situation.
14.0	**Medication Administration:** Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic. –The student will be able to:

14.01	Review the specific anatomy and physiology pertinent to medication administration.
14.02	Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
14.03	Review mathematical principles and discuss equations as a basis for performing drug calculations.
14.04	Describe the indications, contraindications, procedure, equipment and risks associated with peripheral intravenous or external jugular access.
14.05	Describe the indications, equipment needed, technique used, precautions, and general principles of intraosseous needle placement and infusion.
14.06	Describe complications that can occur as a result of IV therapy.
14.07	Discuss the "six rights" of drug administration and correlate these with the principles of medication administration.
14.08	Describe the use of standard precautions and body substance isolation (BSI) procedures when administering a medication.
14.09	Prepare medications for administration from a variety of types of packaging, including vials, non-constituted vials, ampules, prefilled syringes, and packaging for intravenous solutions.
14.10	Describe the role of medical direction in medication administration and describe the difference between direct orders (online) and standing orders (off-line).
14.11	Explain why determining what medications (prescribed / OTC) a patient is taking is a critical aspect of patient assessment.
14.12	Describe the equipment needed and general principles of administering oral medications.
14.13	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 14.13.01 inhalation route 14.13.02 gastric tube 14.13.03 rectal route
14.14	Differentiate among the different percutaneous routes of medication administration.
14.15	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
14.16	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values as referenced in the National EMS educational guidelines: Paramedic Instructional Guidelines.
14.17	Demonstrate principles of medical asepsis in the administration of medications.
14.18	Synthesize a pharmacologic management plan including medication administration.
14.19	Demonstrate the procedure for disposal of contaminated items and supplies.
14.20	Demonstrate cannulation of peripheral or external jugular veins.
14.21	Demonstrate intraosseous needle placement and infusion.

	14.22 Demonstrate administration of medications by the following routes: 14.22.01 oral 14.22.02 Sublingual 14.22.03 Auto-injector 14.22.04 inhalation route 14.22.05 intranasal route. 14.22.06 subcutaneous route. 14.22.07 intramuscular route. 14.22.08 intravenous route. 14.22.09 intraosseous route.
15.0	**Emergency Medications:** Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic. –The student will be able to:
	15.01 Identify medications used by the paramedic, including indications, contraindications, dosages, adverse reactions, side effects, and interactions for the following:
	15.01.01 Airway management
	15.01.02 Respiratory
	15.01.03 Cardiovascular
	15.01.04 Neurologic conditions
	15.01.05 Gastrointestinal
	15.01.06 Miscellaneous medications
16.0	**Airway Management and Respiration:** Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic. –The student will be able to:
	16.01 Explain the primary objective of airway maintenance.
	16.02 Explain the differences between pediatric, adult and geriatric airway anatomy.
	16.03 List the concentration of gases that comprise atmospheric air.
	16.04 Describe the measurement of oxygen in the blood.
	16.05 Describe the measurement of carbon dioxide in the blood.
	16.06 Describe peak expiratory flow.
	16.07 List factors that cause decreased oxygen concentrations in the blood.
	16.08 List the factors that increase and decrease carbon dioxide production in the body.

	16.09	Define pulses paradoxes.
	16.10	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV).
	16.11	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
	16.12	Define, identify and describe a tracheostomy, stoma, and tracheostomy tube.
	16.13	Define, identify, and describe a laryngectomy.
	16.14	Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.15	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
	16.16	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
	16.17	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
	16.18	Describe the indications, contraindications, advantages, disadvantages and complications for performing an open cricothyrotomy.
	16.19	Demonstrate the procedure for percutaneous cricothyrotomy.
	16.20	Identify and describe the function of the structures located in the upper and lower airway.
	16.21	Discuss the physiology of ventilation and respiration.
17.0	**Artificial Ventilation:** Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation. –The student will be able to:	
	17.01	Perform pulse oximetry.
	17.02	Perform and interpret wave form capnography and colormetric in all age groups.
	17.03	Demonstrate proper use of airway and ventilation devices including administration of BIPAP/CPAP and PEEP devices.
	17.04	Demonstrate effective techniques of advanced airway management of the following: 17.04.01 orotracheal, 17.04.02 nasotracheal, 17.04.03 subglottic, 17.04.04 supraglottic, 17.04.05 digital intubation
	17.05	Describe and demonstrate methods of assessment for confirming correct placement of Any airway device
	17.06	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.

	17.07 Describe methods of endotracheal intubation in the pediatric patient.
	17.08 Demonstrate proper use of airway and ventilation devices.
	17.09 Demonstrate the procedure for the following : 17.09.01 lighted stylet 17.09.02 fiber optic
18.0	**Scene Size-Up:** Demonstrate a complex depth, comprehensive breadth of scene management. –The student will be able to:
	18.01 Describe common hazards found at the scene of a trauma and a medical patient.
	18.02 Discuss common mechanisms of injury/ nature of illness.
	18.03 Explain the rationale for crew members to evaluate scene safety prior to entering.
	18.04 Observe various scenarios and identify potential hazards.
	18.05 Demonstrate the scene-size-up.
19.0	**Primary Assessment:** Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations. –The student will be able to:
	19.01 Summarize the reasons for forming a general impression of the patient.
	19.02 Discuss and demonstrate methods of evaluating and assessing mental status.
	19.03 Categorize levels of consciousness in the pediatric, adult and geriatric patient.
	19.04 Discuss and demonstrate methods of assessing the airway in the pediatric, adult and geriatric patient.
	19.05 Describe and demonstrate methods used for assessing if a patient is breathing.
	19.06 Differentiate between the methods of assessing breathing and providing airway care to the pediatric, adult and geriatric patient.
	19.07 Differentiate between locating and assessing a pulse in the pediatric, adult and geriatric patient.
	19.08 Discuss the need for assessing the patient for external bleeding.
	19.09 Demonstrate the techniques for assessing the patient for external bleeding.
	19.10 Describe normal and abnormal findings when assessing skin color, temperature, and condition.
	19.11 Demonstrate the techniques for assessing if the patient has a pulse.
	19.12 Demonstrate the techniques for assessing the patient's skin color, temperature, and condition.
	19.13 Discuss and demonstrate prioritizing a patient for care and transport.

	19.14 Perform a detailed physical examination.
20.0	**History Taking:** Demonstrate a complex depth, comprehensive breath of the components of history taking. –The student will be able to:
	20.01 Describe the components and demonstrate techniques of patient history taking.
	20.02 Demonstrate the importance of empathy when obtaining a health history.
	20.03 Adapt communication strategies to communicate effectively with the following types of patients: patients of all ages; patients of various cultures; patients with sensory impairments; angry, hostile, uncooperative, silent or overly talkative patients; patients who are anxious , crying or depressed; patients who offer multiple complaints or symptoms; intoxicated patients
21.0	**Secondary Assessment:** Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment. –The student will be able to:
	21.01 Describe the techniques of inspection, palpation, percussion, and auscultation for patients of all ages
	21.02 Distinguish the importance of abnormal findings of the assessment of the skin.
	21.03 Differentiate normal and abnormal assessment findings of the mouth and pharynx.
	21.04 Appreciate the limitations of conducting a physical exam in the out-of-hospital environment.
	21.05 Demonstrate the examination of the patient including the following: 21.05.01 skin, hair and nails. 21.05.02 head and neck 21.05.03 eyes, ears and nose 21.05.04 mouth and pharynx 21.05.05 thorax and ventilation 21.05.06 peripheral vascular system 21.05.07 musculoskeletal system 21.05.08 nervous system
	21.06 Demonstrate the examination of the posterior chest including auscultation and percussion of the chest.
	21.07 Demonstrate the examination of the arterial pulse including location, rate, rhythm, and amplitude.
	21.08 Demonstrate special examination techniques of the cardiovascular examination.
	21.09 Demonstrate the examination of the abdomen including auscultation of the abdomen.
	21.10 Describe the evaluation of patient's perfusion status based on findings in the initial assessment.
	21.11 State the reasons for performing a rapid trauma assessment.
	21.12 Discuss the reason for performing a focused history and physical exam.

	21.13 Discuss the components of the detailed physical exam in relation to the techniques of examination.
	21.14 Demonstrate the external visual examination of the female genitalia.
	21.15 Demonstrate the examination of the male genitalia.
	21.16 Explain the reasons for identifying the need for additional help or assistance.
	21.17 State reasons for management of the cervical spine once the patient has been determined to be a trauma patient.
	21.18 Discuss the reasons for repeating the initial assessment as part of the on-going assessment.
	21.19 Describe the components of the on-going assessment.
	21.20 Discuss medical identification devices/ systems.
22.0	**Monitoring Devices:** Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
	22.01 Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 22.01.01 Continuous ECG monitoring 22.01.02 12-Lead ECG 22.01.03 Capnography (wave form) 22.01.04 Capnometry (colorimetric) 22.01.05 CO-oximetry 22.01.06 Methaglobin monitoring 22.01.07 Total hemoglobin 22.01.08 Basic blood chemistry 22.01.09 Ultrasound 22.01.10 other devices identified at the EMT level
	22.02 Demonstrate the use of the following patient monitoring technologies. 22.02.01 Continuous ECG monitoring 22.02.02 12-Lead ECG 22.02.03 Capnography (wave form) 22.02.04 Capnometry (colorimetric) 22.02.05 other devices identified at the EMT level
23.0	**Reassessment:** Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	23.01 Review the EMT standards and benchmarks for the reassessment section and demonstrate a complex depth and comprehensive breadth of how and when to perform a reassessment for all patient situations.
24.0	**Medical Overview:** Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints. –The student will be able to:
	24.01 Review the EMT standards and benchmarks for medical overview and demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment and management of medical complaints.

25.0	**Neurology:** Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups. –The student will be able to:
	25.01 Identify the risk factors associated with nervous system dysfunction.
	25.02 Review the anatomy and physiology of the organs and structures related to nervous system.
	25.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: : 25.03.01 coma 25.03.02 altered mental status 25.03.03 seizures 25.03.04 syncope 25.03.05 transient ischemic attack 25.03.06 stroke and intracranial hemorrhage 25.03.07 degenerative neurologic diseases 25.03.08 chronic alchoholism 25.03.09 back pain and non-traumatic spinal disorders
	25.04 Describe and differentiate the major types of seizures.
	25.05 Describe the types of stroke and intracranial hemorrhage.
	25.06 Describe the significance of the prevalence of neurologic disorders in the United States.
	25.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to neurologic disorders.
26.0	**Abdominal and Gastrointestinal Disorders:** Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
	26.02 Discuss the pathophysiology of inflammation and its relationship to acute abdominal pain.
	26.03 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	26.04 Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.

	26.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders: 26.05.01 Both Upper and lower gastrointestinal bleeding 26.05.02 Acute gastroenteritis. 26.05.03 Colitis. 26.05.04 Diverticulitis. 26.05.05 Appendicitis. 26.05.06 Peptic ulcer disease. 26.05.07 Bowel obstruction. 26.05.08 Crohn's disease. 26.05.09 Pancreatitis. 26.05.10 Esophageal varices. 26.05.11 Hemorrhoids. 26.05.12 Cholecystitis. 26.05.13 Acute hepatitis.
	26.06 Identify patients with risk factors for gastrointestinal emergencies.
	26.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to gastrointestinal disorders.
	26.08 Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
27.0	**Immunology:** Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups. –The student will be able to:
	27.01 Define: 27.01.01 Allergic reaction. 27.01.02 Anaphylaxis 27.01.03 Antigens 27.01.04 Antibodies
	27.02 Review the anatomy and physiology of the organs and structures related to anaphylaxis.
	27.03 Describe the prevention of anaphylaxis and appropriate patient education.
	27.04 Discuss the pathophysiology of allergy and anaphylaxis.
	27.05 Describe the common methods of entry of substances into the body.
	27.06 List common antigens most frequently associated with anaphylaxis.
	27.07 Describe physical manifestations in anaphylaxis.
	27.08 Differentiate manifestations of an allergic reaction from anaphylaxis.
	27.09 Recognize the signs and symptoms related to anaphylaxis.

	27.10 Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis.
	27.11 Develop a treatment plan based on field impression in the patient with allergic reaction and anaphylaxis.
28.0	**Infectious Diseases:** Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups. –The student will be able to:
	28.01 Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
	28.02 List and describe the steps of an infectious process.
	28.03 List and describe infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
	28.04 Describe characteristics of the immune system, including the categories of white blood cells, the reticuloendothelial system (RES), and the complement system.
	28.05 Describe and discuss the rationale for the various types of PPE.
	28.06 Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
	28.07 Discuss disinfection of patient care equipment, and areas in which care of the patient occurred.
	28.08 Consistently demonstrate the proper use of body substance isolation.
	28.09 Perform an assessment of a patient with an infectious/communicable disease.
	28.10 Effectively and safely manage a patient with an infectious/communicable disease, including airway and ventilation care, support of circulation, pharmacological intervention, transport considerations, psychological support/communication strategies, and other considerations as mandated by local protocol.
	28.11 Explain public health principles related to infectious disease.
	28.12 Describe the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
	28.13 Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
	28.14 Explain the principles and practices of infection control in prehospital care.
	28.15 Describes the EMS professional’s responsibilities as well as their rights under the Ryan White Act.

	28.16 Discuss the causative agent, body systems affected and potential secondary complications, routes of transmission, susceptibility and resistance, signs and symptoms and demonstrate the patient management and protective/control measures, and immunization for the following infectious diseases: 28.16.01 HIV 28.16.02 Hepatitis A, B, C, D, E 28.16.03 Tuberculosis 28.16.04 Meningococcal meningitis (spinal meningitis) 28.16.05 Pneumonia 28.16.06 Tetanus 28.16.07 Varicella (chickenpox) 28.16.08 Mumps 28.16.09 Rubella (German measles) 28.16.10 Measles (rubeola, hard measles) 28.16.11 Influenza 28.16.12 Mononucleosis 28.16.13 Gastroenteritis
	28.17 Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease, to include bronchiolitis, bronchitis, laryngitis, croup, epiglottitis, and the common cold.
	28.18 Describe the pathophysiology of infectious diseases of immediate concern to EMS providers.
	28.19 Describe the EMS provider's role in patient education and preventing disease transmission.
	28.20 Explain the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).
29.0	**Endocrine Disorders:** Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups. – The student will be able to:
	29.01 Identify the risk factors related to disorders of the endocrine system.
	29.02 Review the anatomy and physiology of organs and structures related to endocrinologic diseases.
	29.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following endocrinologic emergencies: 29.03.01 30.03.01 hypoglycemia (responsive and unresponsive) 29.03.02 30.03.02 hyperglycemia 29.03.03 30.03.03 diabetic ketoacidosis 29.03.04 30.03.04 Cushing's syndrome 29.03.05 30.03.05 Adrenal insufficiency 29.03.06 30.03.06 Pituitary disorders 29.03.07 30.03.07 Thyroid disorders
	29.04 Describe the mechanism of ketone body formation and its relationship to ketoacidosis.
	29.05 Describe the compensatory mechanisms utilized by the body to promote homeostasis relative to hypoglycemia.

	29.06 Develop a patient management plan based on field impression in the patient with an endocrinologic emergency.
	29.07 Demonstrate how to administer glucagon to a hypoglycemic patient.
30.0	**Psychiatric:** Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups. –The student will be able to:
	30.01 Define behavior and distinguish between normal and abnormal behavior.
	30.02 Discuss the prevalence of behavior and psychiatric disorders.
	30.03 Discuss the factors that may alter the behavior or emotional status of an ill or injured individual.
	30.04 Describe the medical legal considerations for management of emotionally disturbed patients.
	30.05 Discuss the pathophysiology of behavioral and psychiatric disorders.
	30.06 Define the following terms: 30.06.01 Affect 30.06.02 Anger 30.06.03 Anxiety 30.06.04 Confusion 30.06.05 Depression 30.06.06 Fear 30.06.07 Mental status 30.06.08 Open-ended questions 30.06.09 Posture
	30.07 Describe the verbal techniques useful in managing the emotionally disturbed patient.
	30.08 Describe the circumstances when relatives, bystanders and others should be removed from the scene.
	30.09 Describe the techniques that facilitate the systematic gathering of information from the disturbed patient.
	30.10 Identify techniques for physical assessment in a patient with behavioral problems.
	30.11 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient.
	30.12 List the risk factors (including behaviors) for suicide.
	30.13 Differentiate between the various behavioral and psychiatric disorders based on the assessment and history.
	30.14 Develop a patient management plan based on the field impressions.
	30.15 Demonstrate safe techniques for managing and restraining a violent patient.

31.0	**Cardiovascular:** Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups. –The student will be able to:
31.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.
31.02	Identify the risk factors of coronary artery disease.
31.03	Review the anatomy and physiology of the cardiovascular system.
31.04	Describe the blood flow pathway through the vascular system including the arteries, veins and associated structures.
31.05	Explain how the heart functions as a pump; including the concepts of cardiac output, stroke volume, heart rate, and ejection fraction.
31.06	Discuss the physiology of the cardiac cycle and the fluid dynamics associated with the cardiovascular system including Starling's Law, systole and diastole.
31.07	Identify the four properties that aid in the function of the heart including excitability, conductivity, automaticity, and contractility.
31.08	Define the terms: 31.08.01 depolarization 31.08.02 repolarization 31.08.03 pulse deficit 31.08.04 pulsus paradoxus 31.08.05 pulsus alternans 31.08.06 hypertensive emergency 31.08.07 cardiac tamponade 31.08.08 cardiogenic shock 31.08.09 cardiac arrest
31.09	List the ions involved in myocardial action potential and their primary and their primary function in this process.
31.10	Describe the events involved in the steps from excitation to contraction of the cardiac muscle fibers.
31.11	Identify the structure and course of all divisions and subdivisions of the cardiac conduction system.
31.12	Identify and describe how the heart's pacemaking control, rate, and rhythm are determined.
31.13	Compare and contrast the coronary artery distribution to the major portions of the cardiac conduction systems.
31.14	Identify the structures of the autonomic nervous system (ANS).
31.15	Identify the effect of the ANS on heart rate, rhythm and contractility.
31.16	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
31.17	Identify and describe the components of the focused history as it relates to the patient with cardiovascular compromise.

31.18	Explain the assessment and management of the following cardiovascular conditions:
31.19	Identify the normal characteristics of the point of maximal impulse (PMI).
31.20	Identify and define the normal and abnormal heart sounds.
31.21	Relate heart sounds to hemodynamic events in the cardiac cycle.
31.22	Explain the purpose of ECG monitoring and how ECG wave forms are produced.
31.23	Identify the components of the ECG rhythm strip and list any limitations.
31.24	Identify how heart rates, durations, and amplitudes may be determined from ECG tracings.
31.25	Describe the placement of leads and electrodes in 3 lead and 12 lead ECG monitoring.
31.26	Differentiate among the primary mechanisms responsible for producing cardiac dysrhythmias.
31.27	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
31.28	Describe the dysrhythmias originating or sustained in the in the following areas: 31.28.01 sinus node 31.28.02 the AV junction 31.28.03 bundle branch system 31.28.04 atria 31.28.05 ventricles
31.29	Describe the process and the pitfalls of differentiation of wideQRS complex tachycardias.
31.30	Describe the conditions of pulseless electrical activity.
31.31	Describe the phenomena of reentry, aberration and accessory pathways.
31.32	Identify the ECG changes characteristically produced by electrolyte imbalances and specify the clinical implications.
31.33	Identify patient situations where ECG rhythm analysis is indicated.
31.34	Recognize the changes and any limitations on the ECG that may reflect evidence of myocardial ischemia and injury.
31.35	Compare manual defibrillation from cardioversion and synchronized cardioversion.
31.36	Describe the components of a transcutaneous pacer, its application and setting adjustments as well as the clinical indications and techniques for use.
31.37	Based on field impressions, identify the need for rapid intervention for the patient in cardiovascular compromise.

31.38	Discuss the pathophysiology and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan: 31.38.01 Angina 31.38.02 Myocardial infarction STEMI/Non-STEMI 31.38.03 Congestive heart failure 31.38.04 Cardiac tamponade 31.38.05 Cardiogenic shock 31.38.06 Hypertension and acute hypertensive states 31.38.07 Cardiac arrest 31.38.08 Vascular disorders 31.38.09 Hypertrophic cardiomyopathies 31.38.10 Infectious diseases of the heart
31.39	Identify the drugs of choice, the rationale for use, clinical precautions and disadvantages and/or complications for the following conditions: 31.39.01 Angina 31.39.02 Myocardial infarction STEMI/Non-STEMI 31.39.03 Congestive heart failure 31.39.04 Cardiac tamponade 31.39.05 Cardiogenic shock 31.39.06 Hypertension and acute hypertensive states 31.39.07 Cardiac arrest 31.39.08 Vascular disorders 31.39.09 Hypertrophic cardiomyopathies 31.39.10 Infectious diseases of the heart
31.40	Describe the most commonly used pharmacological agents in the management of congestive heart failure in terms of therapeutic effect, dosages, and routes of administration, side effects and toxic effects.
31.41	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
31.42	Compare fibrinolysis from percutaneous intervention as reperfusion techniques used in patients with AMI or suspected AMI and describe the "window of opportunity" as it pertains to reperfusion of a Myocardial infarction.
31.43	List the characteristics of a patient eligible for thrombolytic therapy.
31.44	Define the term "acute pulmonary edema" and describe its relationship to left ventricular failure.
31.45	Define preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
31.46	Differentiate between early and late signs and symptoms of left ventricular failure and those of right ventricular failure.
31.47	Explain the clinical significance of paroxysmal nocturnal dyspnea.
31.48	Explain clinical significance of edema of the extremities and sacrum.

31.49	Describe how to determine if pulses paradoxus, pulses alternans, or electrical alternans is present.
31.50	Identify non-cardiac causes of cardiac arrest.
31.51	Identify the clinical significance of claudication and presence of arterial bruits in a patient with peripheral vascular disorders.
31.52	Describe the clinical significance of unequal arterial blood pressure readings in the arms.
31.53	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
31.54	Explain how to confirm asystole using 3 lead ECG.
31.55	Identify circumstances and situations where resuscitation efforts would not be initiated.
31.56	Identify and list inclusion and exclusion criteria for termination of resuscitative efforts.
31.57	Identify communication and documentation protocols with medical direction and law enforcement used for termination of resuscitation efforts.
31.58	Apply knowledge of the epidemiology of cardiovascular disease to develop prevention strategies.
31.59	Defend the urgency in rapid determination of and rapid intervention of patients in cardiac arrest.
31.60	Defend the possibility of termination of resuscitative efforts in the out-of-hospital setting.
31.61	Demonstrate how to set and adjust the ECG monitor settings to varying patient situations.
31.62	Demonstrate how to record a 3, 4, 10 and 12 lead ECG.
31.63	Given the model of a patient with signs and symptoms of heart failure, position the patient to afford them comfort or relief.
31.64	Demonstrate how to determine if pulsus paradoxus, pulsus alternans, or electrical alternans is present.
31.65	Set up and apply a transcutaneous pacing system.
31.66	List the possible complications of pacing.
31.67	Demonstrate how to perform post-resuscitative care.
31.68	Demonstrate satisfactory performance of psychomotor skills of basic and advanced life support techniques according to the current American Heart Association Guidelines or its equivalent, including: 31.68.01 cardiopulmonary resuscitation 31.68.02 defibrillation 31.68.03 synchronized cardioversion 31.68.04 transcutaneous pacing
32.0	**Toxicology:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups. –The student will be able to:

32.01	Describe the epidemiology, incidence, morbidity and mortality of toxic emergencies.
32.02	Identify the risk factors of toxic emergencies.
32.03	Discuss the role of the Poison Control Center in the United States.
32.04	List the most common poisonings by ingestion.
32.05	Recognize the signs and symptoms related to the most common poisonings by ingestion.
32.06	Discuss the factors affecting the decision to induce vomiting in a patient with ingested poison.
32.07	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by ingestion.
32.08	Define poisoning by inhalation.
32.09	List the most common poisonings by inhalation.
32.10	Describe the pathophysiology of poisoning by inhalation.
32.11	Recognize the signs and symptoms related to the most common poisonings by inhalation.
32.12	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by inhalation.
32.13	Define poisoning by injection.
32.14	List the most common poisonings by injection.
32.15	Recognize the signs and symptoms related to the most common poisonings by injection.
32.16	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by injection.
32.17	Define poisoning by surface absorption.
32.18	List the most common poisonings by surface absorption.
32.19	Describe the pathophysiology of poisoning by surface absorption.
32.20	Recognize the signs and symptoms related to the most common poisonings by surface absorption.
32.21	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by surface absorption.
32.22	Define poisoning by overdose.
32.23	List the most common poisonings by overdose.

32.24	Describe the pathophysiology of poisoning by overdose.
32.25	Recognize the signs and symptoms related to the most common poisonings by overdose.
32.26	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by overdose.
32.27	Define drug abuse.
32.28	Define the following terms: 32.28.01 Substance or drug abuse 32.28.02 Substance or drug dependence 32.28.03 Tolerance 32.28.04 Withdrawal 32.28.05 Addiction
32.29	List the most commonly abused drugs (both by chemical name and street names).
32.30	Recognize the signs and symptoms related to the most commonly abused drugs.
32.31	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients using the most commonly abused drugs.
32.32	List the clinical uses, street names, pharmacology, assessment finding and management for patient who have taken the following drugs or been exposed to the following substances: Cocaine, marijuana and cannabis compounds, Amphetamines and amphetamine-like drugs, Barbiturates, Sedative-hypnotics, Cyanide, Narcotics/opiates, cardiac medications, Caustics, common household substances, Drugs abused for sexual purposes/sexual gratification, Carbon monoxide, Alcohols, Hydrocarbons, Psychiatric medications, Newer anti-depressants and serotonin syndromes, Lithium, MAO inhibitors, Non-prescription pain medications, Nonsteroidal anti-inflammatory agents, Salicylates, Acetaminophen, Theophylline, Metals, Plants and mushrooms

	32.33 Discuss the specific differences and considerations in the pathophysiology, assessment findings and treatment associated with a patient suffering from the following toxins and toxidromes: 32.33.01 Carbon Monoxide. 32.33.02 Cyanide. 32.33.03 Cardiac Medications 32.33.04 Organophosphates. 32.33.05 Caustic Substances. 32.33.06 Hydrocarbons. 32.33.07 Hydrofluoric Acid 32.33.08 Prescription Medications (pain relievers, psychiatric medications). 32.33.09 Alcohol, Alcoholism and withdrawal. 32.33.10 Tricyclic Antidepressants 32.33.11 Monoamine Oxidase Inhibitors 32.33.12 Newer Antidepressants and Serotonin Syndrome 32.33.13 Lithium 32.33.14 Salicylates 32.33.15 Acetaminophens. 32.33.16 NSAIDs 32.33.17 Theophylline 32.33.18 Metals (iron, lead, mercury). 32.33.19 Contaminated Food. 32.33.20 Poisonous plants and Mushrooms 32.33.21 Animal bites, Insect Stings 32.33.22 Commonly Abused Drugs
	32.34 Discuss common causative agents, pharmacology, assessment findings and management for a patient with food poisoning.
	32.35 Discuss common offending organisms, pharmacology, assessment findings and management for a patient with a bite or sting.
	32.36 Develop a patient management plan based on field impression in the patient exposed to a toxic substance.
	32.37 Describe the epidemiology of toxicologic disorders and substance abuse.
	32.38 Explain the proper procedures for transporting a patient exposed to a toxic chemical to a receiving facility.
	32.39 Demonstrate the steps for assessment and management of the suspected poisoning or overdose patient.
33.0	**Respiratory:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	33.01 Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States
	33.02 Define hypoventilation and hyperventilation, and outline the conditions with which they are often associated
	33.03 Review the anatomy, physiology and functions of the respiratory system.

33.04	Explain how gas exchange occurs at the interface of the alveoli and the pulmonary capillary bed.
33.05	Describe the physiology of respiration including nervous, cardiovascular, muscular, chemical, renal respiratory control mechanisms and ventilation-perfusion mismatch.
33.06	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.
33.07	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.
33.08	Differentiate between normal and abnormal breath sounds and its physiologic significance.
33.09	Discuss abnormal assessment findings associated with pulmonary diseases and conditions.
33.10	Explain how to access the adequacy of the circulation of a patient with dyspnea.
33.11	Discuss the way transport decisions are made for patients with respiratory distress.
33.12	Describe the interventions available for treating patients with respiratory emergencies.
33.13	Describe those devices used to monitor patients with respiratory complaints.
33.14	Discuss those complications which cause the COPD patient to decompensate.
33.15	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.
33.16	Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following respiratory conditions: 33.16.01 pulmonary infections (upper and lower airway) 33.16.02 atelectasis 33.16.03 anatomic or foreign body obstruction 33.16.04 aspiration 33.16.05 asthma 33.16.06 emphysema 33.16.07 chronic bronchitis 33.16.08 spontaneous pneumothorax 33.16.09 pleural effusion 33.16.10 pulmonary embolism 33.16.11 cancer 33.16.12 toxic inhalations 33.16.13 pulmonary edema 33.16.14 acute respiratory distress syndrome (ARDS) 33.16.15 Pneumonia 33.16.16 Neoplasms of the lung 33.16.17 Hyperventilation syndrome

	33.17 Compare various airway and ventilation techniques used in the management of pulmonary diseases.
	33.18 Review the pharmacological preparations that paramedics use for management of respiratory diseases and conditions.
	33.19 Review the use of equipment used during the physical examination of patients with complaints associated with respiratory diseases and conditions.
	33.20 Describe the variations of respiratory anatomy and the pathophysiology of respiratory disease across the life spans.
34.0	**Hematology:** Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups. –The student will be able to:
	34.01 Identify the role of heredity in the risk for hematologic disorders.
	34.02 Review the anatomy of the hematopoietic system.
	34.03 Describe volume and volume-control related to the hematopoietic system.
	34.04 Describe normal red blood cell (RBC) production, function and destruction.
	34.05 Explain the significance of the hematocrit with respect to red cell size and number.
	34.06 Explain the correlation of the RBC count, hematocrit and hemoglobin values.
	34.07 Define anemia.
	34.08 Recognize medications used to decrease the risk of thrombosis.
	34.09 Describe normal white blood cell (WBC) production, function and destruction.
	34.10 Identify alterations in immunologic response.
	34.11 List the leukocyte disorders.
	34.12 Describe platelets with respect to normal function, life span and numbers.
	34.13 Describe the components of the hemostatic mechanism.
	34.14 Describe the function of coagulation factors, platelets and blood vessels necessary for normal coagulation.
	34.15 Identify blood groups.
	34.16 Identify the components of physical assessment as they relate to the hematologic system.

	34.17 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: 34.17.01 Anemia 34.17.02 Leukemia 34.17.03 Lymphomas 34.17.04 Polycythemia 34.17.05 Disseminated intravascular coagulopathy 34.17.06 Hemophilia 34.17.07 Sickle cell disease 34.17.08 Multiple myeloma 34.17.09 Leukopenia/neutropenia 34.17.10 Leukocytosis 34.17.11 Thrombocytosis 34.17.12 Thrombocytopenia
	34.18 Integrate pathophysiological principles into the assessment of a patient with hematologic disease.
35.0	**Genitourinary/Renal:** Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups. –The student will be able to:
	35.01 Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
	35.02 Review the anatomy and physiology of the organs and structures related to urogenital diseases.
	35.03 Define referred pain and visceral pain as it relates to urology.
	35.04 Describe the technique for performing a comprehensive physical examination of a patient complaining of abdominal pain.
	35.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients of the following urologic and renal conditions: 35.05.01 Acute renal failure 35.05.02 Chronic renal failure 35.05.03 Complications related to hemodialysis and peritoneal dialysis. 35.05.04 Renal Calculi 35.05.05 Priapism 35.05.06 Testicular torsion 35.05.07 Urinary tract infection
	35.06 Apply the epidemiology to develop prevention strategies for urological emergencies.
	35.07 Integrate pathophysiological principles to the assessment of a patient with abdominal pain.
	35.08 Synthesize assessment findings and patient history information to accurately differentiate between pain of a urogenital emergency and that of other origins.
	35.09 Develop, execute, and evaluate a treatment plan based on the field impression made in the assessment.

	35.10 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to urologic and renal disorders.
36.0	**Gynecology:** Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups. –The student will be able to:
	36.01 Review the anatomic structures and physiology of the female reproductive system.
	36.02 Identify the normal events of the menstrual and ovarian cycle including: 36.02.01 Proliferative phase 36.02.02 Secretory phase 36.02.03 Menstrual phase 36.02.04 Menopause
	36.03 Explain how to recognize a gynecological emergency.
	36.04 Discuss the pathophysiology and demonstrate the assessment, and management of patients with specific gynecological emergencies: 36.04.01 Infection (including Pelvic inflammatory disease, Bartholin's abscess, and vaginitis/ vulvovaginitis) 36.04.02 Ovarian cyst and ruptured ovarian cyst 36.04.03 Ovarian torsion 36.04.04 Endometriosis 36.04.05 Dysfunctional uterine bleeding 36.04.06 Prolapsed uterus 36.04.07 Vaginal foreign body 36.04.08 Vaginal Hemorrhage 36.04.09 Ectopic Pregnancy
	36.05 Describe the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	36.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
	36.07 Demonstrate how to assess a patient with a gynecological complaint.
	36.08 Demonstrate how to provide care for a patient with: 36.08.01 Excessive vaginal bleeding 36.08.02 Abdominal pain 36.08.03 Sexual assault.
37.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	37.01 Discuss the epidemiology of non-traumatic musculoskeletal disorders.

37.02	Discuss various non-traumatic musculoskeletal disorders such as: 37.02.01 osteomyelitis and tumors 37.02.02 disc disorders, lower back pain (cauda equine syndrome, sprain, strain.) 37.02.03 joint abnormalities 37.02.04 muscle abnormalities 37.02.05 overuse syndrome 37.02.06 soft tissue infections
38.0	**Diseases of the Eyes, Ears, Nose , and Throat :** Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups. –The student will be able to:
38.01	Relate the anatomy and physiology of the eyes, ears, nose, and throat to the pathophysiology and assessment of patients with diseases of the eyes, ears, nose, and throat.
38.02	Discuss the pathophysiology and demonstrate the assessment, and management of patients with various eye diseases/injuries including: 38.02.01 Burns of eye and adnexa 38.02.02 Conjunctivitis 38.02.03 Corneal abrasions 38.02.04 Foreign body 38.02.05 Inflammation of the eyelid 38.02.06 Glaucoma 38.02.07 Hyphema 38.02.08 Iritis 38.02.09 Papilledema 38.02.10 Retinal detachment and defect 38.02.11 Cellulitis of orbit
38.03	Discuss the pathophysiology and demonstrate the assessment, and management of patients with various ear diseases/injuries including: 38.03.01 Foreign body 38.03.02 Impacted cerumen 38.03.03 Labyrinthitis 38.03.04 Meniere's disease 38.03.05 Otitis external and media 38.03.06 Perforated tympanic membrane
38.04	Discuss the pathophysiology and demonstrate the assessment, and management of patients with various nose diseases/injuries including: 38.04.01 Epistaxis 38.04.02 Foreign body intrusion 38.04.03 Rhinitis 38.04.04 Sinusitis

	38.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with oropharynx/throat diseases/injuries including: 38.05.01 Dentalgia and dental abscess 38.05.02 Diseases of oral soft tissue/ Ludwig's angina 38.05.03 Foreign body intrusion 38.05.04 Epiglottitis 38.05.05 Laryngitis 38.05.06 Tracheitis 38.05.07 Oral candidiasis 38.05.08 Peritonsillar abscess 38.05.09 Pharyngitis/tonsillitis 38.05.10 Temporomandibular joint disorders
39.0	**Shock and Resuscitation:** Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure. –The student will be able to:
	39.01 Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.
	39.02 Review the anatomy and physiology of the cardiovascular and respiratory systems.
	39.03 Discuss the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.
	39.04 Discuss and demonstrate the assessment and management of shock.
	39.05 Review and demonstrate the management of external hemorrhage.
	39.06 Differentiate between the administration rate and amount of IV fluid in a patient with controlled versus uncontrolled hemorrhage.
	39.07 Relate internal hemorrhage to the assessment findings of compensated and decompensated hemorrhagic shock.
	39.08 Review the following for the cardiac arrest victim: 39.08.01 Epidemiology 39.08.02 Pathophysiology 39.08.03 Physiology of blood flow during external chest compressions 39.08.04 Resuscitation success/research
	39.09 Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.

	39.10 Discuss causes, pathophysiology and management of special arrest and peri-arrest conditions: 39.10.01 Electrolyte disorders 39.10.02 Toxic exposures 39.10.03 Drowning 39.10.04 Hypothermia 39.10.05 Near-Fatal Asthma 39.10.06 Anaphylaxis 39.10.07 Trauma 39.10.08 Pregnancy 39.10.09 Electrical Shock and lightning strikes
	39.11 Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
	39.12 Discuss and demonstrate the assessment and management of internal hemorrhage.
	39.13 Discuss the stages and classifications of hemorrhage
	39.14 Discuss the pathophysiology and demonstrate the assessment and management of the different types of shock
	39.15 Describe the effects of decreased perfusion at the capillary level.
	39.16 Relate pulse pressure changes to perfusion status.
	39.17 Relate orthostatic vital sign changes to perfusion status.
	39.18 Define and differentiate between compensated and decompensated shock for all types of shock.
	39.19 Discuss the complications of shock
	39.20 Discuss and differentiate the physiological manifestations of shock across the age continuum.
	39.21 Differentiate between the normotensive, hypotensive, or profoundly hypotensive patient.
	39.22 Differentiate between the administration of fluid in the normotensive, hypotensive, or profoundly hypotensive patient.
	39.23 Develop, execute and evaluate a treatment plan based on the field impression for the hemorrhage or shock patient.
	39.24 Discuss the destination decision for patients in varying types of shock.
	39.25 Demonstrate how to manage a patient suffering from an abnormal heart rate or rhythm.
40.0	**Trauma Overview:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	40.01 Discuss the incidence, morbidity, and mortality of blast injuries.
	40.02 Predict blast injuries based on mechanism of injury, including primary, secondary and tertiary.

	40.03 Discuss the effects of an explosion within an enclosed space on a patient.
	40.04 Defend the components of a comprehensive trauma system and the levels of trauma centers.
	40.05 Describe the criteria for transport to a trauma center.
	40.06 Explain the rational for utilizing air medical transport in the trauma patient.
	40.07 Review energy and force as they relate to trauma.
	40.08 Explain laws of motion and energy and apply the kinetic energy equation.
	40.09 Describe the pathophysiology of the head, spine, thorax, and abdomen that result from the above forces.
	40.10 List suspected injuries from the different causes of trauma: 40.10.01 Motor vehicles (restrained and un-restrained) 40.10.02 Frontal/head on 40.10.03 Lateral or side impacts 40.10.04 Rear impacts 40.10.05 Rotational impacts 40.10.06 Rollovers 40.10.07 Motorcycles 40.10.08 Pedestrian (include the differences for pediatric patient) 40.10.09 Falls from heights 40.10.10 Penetrating 40.10.11 Blasts
	40.11 Discuss and demonstrate the State of Florida's trauma scorecard methodologies as required by Florida Administrative Code and Florida Statute
	40.12 Explain the National Trauma Triage Protocol of Injured Patients
41.0	**Bleeding:** Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups. –The student will be able to:
	41.01 Discuss the compensatory mechanism in hemorrhagic shock.
	41.02 Discuss the administration of medications to assist in the maintenance of homeostasis.
	41.03 Discuss the maintenance of tissue oxygenation in a bleeding patient.
	41.04 Defend and differentiate the type and use of IV fluids for fluid resuscitation in hemorrhagic shock.
	41.05 Demonstrate the different methods/modalities of controlling bleeding.
42.0	**Chest Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups. –The student will be able to:

42.01 Review the anatomy and physiology of the organs and structures related to thoracic injuries.

42.02 Review the pathophysiology and Mechanism of Injury (MOI) of the following injuries, including:

- 42.02.01 Myocardial injuries
  - 42.02.01.1 pericardial tamponade
  - 42.02.01.2 myocardial contusion
  - 42.02.01.3 myocardial rupture
- 42.02.02 Vascular injury
  - 42.02.02.1.1 Aortic Dissection
  - 42.02.02.1.2 Pulmonary contusion
- 42.02.03 Hemothorax
- 42.02.04 Pneumothorax
- 42.02.05 Hemopneumothorax
- 42.02.06 Cardiac Tamponade
- 42.02.07 Commotio Cordis
- 42.02.08 Tracheobronchial disruption
- 42.02.09 Diaphragmatic rupture and injury
- 42.02.10 Tramatic asphyxia
- 42.02.11 Rib fracture
- 42.02.12 Flail segment
- 42.02.13 Sternal fracture

42.03 Discuss and demonstrate the assessment and management of the patient for each the following:

- 42.03.01 thoracic injuries.
- 42.03.02 chest wall injuries.
- 42.03.03 lung injuries.
- 42.03.04 myocardial injuries.
- 42.03.05 vascular injuries.
- 42.03.06 diaphragmatic injuries.
- 42.03.07 tracheo-bronchial injuries
- 42.03.08 traumatic asphyxia.

42.04 Identify the need for rapid intervention and transport of the patient for each of the following:

- 42.04.01 thoracic injuries.
- 42.04.02 chest wall injuries.
- 42.04.03 lung injuries.
- 42.04.04 myocardial injuries.
- 42.04.05 vascular injuries.
- 42.04.06 diaphragmatic injuries.
- 42.04.07 esophageal injuries
- 42.04.08 tracheo-bronchial injuries
- 42.04.09 traumatic asphyxia.

42.05 Assist with the insertion of a chest tube and when in place monitor and manage chest tube patency.

	42.06 Discuss and demonstrate the assessment and management of a patient with a thoracic injury.
	42.07 Integrate the pathophysiological principles to the assessment of a patient with a thoracic injury.
	42.08 Develop a patient management plan based on the field impression.
	42.09 Recognize the need for the use of a thorough assessment to determine a differential diagnosis and treatment plan for thoracic trauma.
	42.10 Demonstrate a clinical assessment for a patient with suspected thoracic trauma.
	42.11 Demonstrate the following techniques of management for thoracic injuries: Needle decompression, Fracture stabilization, Elective intubation, ECG monitoring , Oxygenation and ventilation
43.0	**Abdominal and Genitourinary Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of organs and structures related to abdominal injuries.
	43.02 Discuss the abdominal vascular structures
	43.03 Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
	43.04 Discuss and explain the pathophysiology for: 43.04.01 Pelvic fractures. 43.04.02 Solid organ injuries 43.04.03 Hollow organ injuries 43.04.04 Abdominal vascular injuries 43.04.05 Retroperitoneal space (kidneys) 43.04.06 Genitourinary system
	43.05 Describe and demonstrate the assessment and management for: 43.05.01 Pelvic fractures. 43.05.02 Solid organ injuries 43.05.03 Hollow organ injuries 43.05.04 Abdominal vascular injuries 43.05.05 Retroperitoneal space (kidneys) 43.05.06 Genitourinary system
	43.06 Develop a patient management plan for a patient with abdominal injuries, based upon field impression.
	43.07 Describe the epidemiology, including the morbidity/mortality and prevention strategies for abdominal vascular injuries.
	43.08 Integrate the pathophysiological principles to the assessment of a patient with abdominal injuries
	43.09 Develop and demonstrate the management of a patient with an impaled object, evisceration and shock.

	43.10 Discuss the variations in symptoms, signs and treatment of patients across the ages
	43.11 Discuss the emotional treatment associated with abdominal and genitourinary injuries.
44.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology of the musculoskeletal system, include the healing process.
	44.02 Discuss types of musculoskeletal injuries: 44.02.01 fracture (open and closed – epiphyseal, greenstick, and torus), 44.02.02 dislocation/fracture, 44.02.03 sprain 44.02.04 strain
	44.03 Discuss the pathophysiology and potential complications of orthopedic injuries.
	44.04 Discuss and demonstrate the patient assessment techniques and findings for orthopedic injuries.
	44.05 Explain the 6 “P” orthopedic injury assessment
	44.06 Discuss the general guidelines for management of orthopedic injuries: 44.06.01 Heat therapy 44.06.02 Cold therapy 44.06.03 Splinting 44.06.04 Medication administration (analgesics and anxiolytics)
	44.07 Discuss the pathophysiology of open and closed fractures.
	44.08 Discuss and demonstrate the assessment and management of specific orthopedic injuries: 44.08.01 Shoulder girdle 44.08.02 Humeral fractures 44.08.03 Elbow 44.08.04 Forearm 44.08.05 Wrist and Hand 44.08.06 Pelvis 44.08.07 Hip 44.08.08 Femoral shaft 44.08.09 Knee 44.08.10 Tibia and Fibula 44.08.11 Ankle 44.08.12 Calcaneus

	44.09 Discuss the pathophysiology and management of dislocations: 44.09.01 Shoulder girdle 44.09.02 Elbow 44.09.03 Wrist and hand 44.09.04 Hand 44.09.05 Hip 44.09.06 Knee
	44.10 Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment.
	44.11 Explain the importance of manipulating a knee dislocation/fracture with an absent distal pulse.
	44.12 Define luxation and subluxation
	44.13 Discuss and demonstrate the assessment and management of sprains and strains
	44.14 Review the pathophysiology and mechanism of injury for compartment and crush syndrome
	44.15 Discuss and demonstrate the assessment and management of compartment and crush syndrome: 44.15.01 Destination decision 44.15.02 Rhabodomylysis
	44.16 Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder and Achilles.
	44.17 Develop a patient management plan for the musculoskeletal injury based on the field impression.
	44.18 Recognize the use of pain management in the treatment of musculoskeletal injuries.
45.0	**Soft Tissue Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
	45.01 Review anatomy and physiology and identify the major functions of the integumentary system.
	45.02 Discuss the pathophysiology of soft tissue injuries and the healing process including: 45.02.01 Inflammation 45.02.02 Epithelialization 45.02.03 Neurovascularization 45.02.04 Collagen Synthesis 45.02.05 Alterations in would healing 45.02.06 Abnormal scar formation
	45.03 Differentiate between the following types of closed soft tissue injuries: contusions, hematoma and crush injuries.
	45.04 Review the assessment findings and management associated with closed soft tissue injuries.
	45.05 Differentiate between the following types of open soft tissue injuries: abrasions, lacerations, major arterial lacerations, avulsions, impaled objects, amputations, incisions, crush injuries, blast injuries, and penetrations/punctures.

45.06	Review the pathophysiology of open wounds.
45.07	Review between the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: direct pressure, pressure dressing, and tourniquet application.
45.08	Integrate pathophysiological principles to the assessment of a patient with a soft tissue injury and synthesize and demonstrate a treatment plan
45.09	Formulate treatment priorities for patients with soft tissue injuries in conjunction with airway/face/neck trauma, thoracic trauma (open/closed), and abdominal trauma.
45.10	Defend the rationale explaining why immediate life-threats must take priority over wound closure.
45.11	Demonstrate the proper use of any Morgan type lens for irrigation of the eye.
45.12	Describe the epidemiology, including incidence, mortality/ morbidity, risk factors, and prevention strategies for the patient with a burn injury.
45.13	Describe the pathophysiologic complications and systemic complications of a burn injury.
45.14	Review and describe types of burn injuries, including a thermal burn, an inhalation burn, a chemical burn, an electrical burn, and a radiation exposure.
45.15	Review and describe the depth classifications of burn injuries, including a superficial burn, a partial-thickness burn, a full-thickness burn, and other depth classifications described by local protocol.
45.16	Demonstrate the methods for determining body surface area percentage of a burn injury including the "rules of nines," the "rules of palms," and other methods described by local protocol.
45.17	Review and describe the severity of a burn including a minor burn, a moderate burn, a severe burn, and other severity classifications described by local protocol.
45.18	Describe special considerations for a pediatric patient with a burn injury.
45.19	Discuss conditions associated with burn injuries, including: 45.19.01 Trauma 45.19.02 blast injuries 45.19.03 airway compromise 45.19.04 respiratory compromise 45.19.05 child abuse
45.20	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
45.21	Describe the pathophysiology of a thermal burn injury.
45.22	Describe the pathophysiology and assessment findings of a burn from the following causes: 45.22.01 Inhalation 45.22.02 Chemicals 45.22.03 electricity

	45.23 Describe and demonstrate the assessment and management of a thermal, inhalation, electrical and chemical burn injury and radiation exposure, including: 45.23.01 airway and ventilation 45.23.02 circulation 45.23.03 pharmacological, non-pharmacological 45.23.04 transport considerations 45.23.05 psychological support/ communication strategies
	45.24 Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.
	45.25 Describe the pathophysiology of a radiation exposure, including the types and characteristics of ionizing radiation.
	45.26 Identify and describe the severity of a radiation exposure.
	45.27 Develop, execute and evaluate a management plan based on the field impression for the patient with thermal, inhalation, chemical, electrical, and radiation burn injuries.
46.0	**Head, Face, Neck, and Spine:** Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups. –The student will be able to:
	46.01 Differentiate between facial injuries based on the assessment and history.
	46.02 Relate assessment findings associated with head, facial and neck injuries to pathophysiology.
	46.03 Develop a patient management plan based on patient assessment and a field impression for injuries to the following areas: 46.03.01 Eye(s) 46.03.02 Nose 46.03.03 Throat/neck 46.03.04 Face 46.03.05 Mouth 46.03.06 Ear(s)
	46.04 Formulate a field impression for a patient with an injury for the following areas based on the assessment findings: 46.04.01 Eye(s) 46.04.02 Nose 46.04.03 Throat/neck 46.04.04 Face 46.04.05 Mouth 46.04.06 Ear(s)
	46.05 Distinguish between head injury and brain injury.
	46.06 Define and explain the process involved with each of the levels of increasing ICP.
	46.07 Identify the need for rapid intervention and transport of the patient with a head/brain injury.
	46.08 Describe and demonstrate the assessment and general management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.

46.09	Explain the pathophysiology of skull fracture and intracranial hemorrhage, including epidural, subdural, intracerebral, and subarachnoid.
46.10	Develop a management plan for a patient for each of the following conditions: 46.10.01 skull fracture 46.10.02 cerebral contusion 46.10.03 intracranial hemorrhage 46.10.04 epidural, subdural, intracerebral, and subarachnoid
46.11	Differentiate between traumatic and non-traumatic spinal injuries based on the assessment and history.
46.12	Describe the pathophysiology of non-traumatic spinal injury, including but not limited to, low back pain, herniated intervertebral disk and spinal cord tumors.
46.13	Describe and demonstrate the assessment and management of non- traumatic spinal injuries.
46.14	Describe the pathophysiology of traumatic spinal injury related to: 46.14.01 spinal shock 46.14.02 spinal neurogenic shock 46.14.03 quadriplegia/paraplegia, 46.14.04 Incomplete cord injury/cord syndromes, including central cord syndrome, anterior cord syndrome and Brown-Sequard syndrome.
46.15	Discuss and demonstrate the assessment and management of spine trauma including dislocations/subluxations, fractures, and sprains/strains.
46.16	Develop a management plan for a patient with spine trauma including dislocations/subluxations, fractures, and sprains/strains.
46.17	Develop a patient management plan for both a traumatic and a non-traumatic spinal injury based on the field impression.
46.18	Demonstrate a clinical assessment to determine the proper management modality for a patient for both a suspected traumatic spinal injury and a non-traumatic spinal injury.
46.19	Demonstrate spinal motion restriction of the urgent and non-urgent patient with assessment findings of spinal injury from the following presentations: Supine, Prone, Semi-prone, Sitting, Standing
	46.19.01 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
46.20	Demonstrate various methods for stabilization and removal of a helmet.
46.21	Discuss and demonstrate the assessment and management of each of the following: 46.21.01 Perforated tympanic membranes. 46.21.02 orbital fracture 46.21.03 mandibular fractures
46.22	Develop a management plan for a patient for each of the following: 46.22.01 Perforated tympanic membranes. 46.22.02 orbital fracture 46.22.03 mandibular fractures

47.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups. –The student will be able to:
	47.01 Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.
	47.02 Discuss pathophysiology of the following nervous system injury including: 47.02.01 Cauda Equine syndrome 47.02.02 Peripheral nerve injuries 47.02.03 Intracerebral hemorrhages 47.02.04 Cranial fractures 47.02.05 Brain tissue injuries 47.02.06 Spinal cord injuries
	47.03 Discuss the mechanism of injury which would result in a nervous system injury.
	47.04 Discuss the specific assessment (s) for nervous system injuries including: 47.04.01 Brown-Sequard syndrome 47.04.02 Cauda Equine syndrome 47.04.03 Anterior cord syndrome 47.04.04 Central cord syndrome 47.04.05 Intracerebral hemorrhage
	47.05 Discuss the pathophysiology of a traumatic brain injury and spinal shock.
	47.06 Develop a management plan for a patient with traumatic brain injury and spinal shock
	47.07 Synthesize and demonstrate the spinal motion restriction technique for the different spinal cord injuries.
	47.08 Discuss the research involving the management of nervous system injuries and patient management.
48.0	**Special Considerations in Trauma:** Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups. –The student will be able to:
	48.01 All trauma objectives should integrate the assessment and management differences associated with the following special populations: 48.01.01 Pregnancy 48.01.02 Pediatric 48.01.03 Geriatric 48.01.04 Cognitively impaired
49.0	**Environmental Emergencies:** Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups. – The student will be able to:
	49.01 Define "environmental emergency."

49.02	Discuss the pathophysiology and MOI of the following: 49.02.01 Drowning and water related incidents 49.02.02 temperature-related illness 49.02.03 bites and envenomation 49.02.04 dysbarism such as high-altitude edema 49.02.05 diving injuries 49.02.06 lightning (electrical) injury 49.02.07 high altitude illness
49.03	Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.
49.04	Describe several methods of temperature monitoring.
49.05	Identify the components of the body's thermoregulatory mechanism.
49.06	Describe the general process of thermal regulation, including substances used and wastes generated.
49.07	Describe the body's compensatory process for overheating.
49.08	Discuss and list the common forms of heat and cold disorders.
49.09	Discuss the pathophysiology of temperature related illness
49.10	Relate symptomatic findings to the commonly used terms: heat cramps, heat exhaustion, and heatstroke.
49.11	Describe the contribution of dehydration to the development of heat disorders.
49.12	Describe the differences between classical and exertional heatstroke.
49.13	Define fever and discuss its pathophysiologic mechanism.
49.14	Discuss the role of fluid therapy in the treatment of temperature related emergencies
49.15	Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has dehydration, heat exhaustion, or heatstroke.
49.16	Identify differences between mild, severe, chronic and acute hypothermia
49.17	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has either mild or severe hypothermia.
49.18	Define frostbite and superficial frostbite (frostnip).
49.19	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with superficial or deep frostbite.
49.20	Define submersion

49.21	List signs and symptoms of submersion
49.22	Describe the lack of significance of fresh versus saltwater immersion, as it relates to submersion
49.23	Discuss the incidence of "wet" versus "dry" drownings and the differences in their management.
49.24	Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the submersion patient.
49.25	Define self-contained underwater breathing apparatus (SCUBA).
49.26	Discuss the pathophysiology of diving emergencies including: 49.26.01 decompression illness/sickness 49.26.02 Altitude Illnesses 49.26.03 Pulmonary Over Pressurization Syndrome (POPS) 49.26.04 Arterial Gas Embolism
49.27	Relate the gas laws to the pathology of injury in a submersion emergency
49.28	List signs and symptoms of diving emergencies.
49.29	Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
49.30	Differentiate among the various treatments and interventions for the management of diving accidents.
49.31	Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
49.32	Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a management plan for the patient who has had a diving accident.
49.33	Develop a patient management plan based on the field impression of the patient affected by an environmental emergency.
49.34	Discuss the pathophysiology of bites and envenomation including: 49.34.01 Hymenoptera 49.34.02 Snake bites 49.34.03 Spider Bites 49.34.04 Scorpion stings 49.34.05 Tick Bites
49.35	Discuss and demonstrate the assessment and management of: 49.35.01 Hymenoptera 49.35.02 Snake bites 49.35.03 Spider Bites 49.35.04 Scorpion stings 49.35.05 Tick Bites
49.36	Relate the assessment of bites and envenomation to the immune response and shock

50.0	**Multi-Systems Trauma:** Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries. –The student will be able to:
	50.01 Demonstrate the priority of care in the multisystem trauma patient
	50.02 Explain which ALS interventions should occur prior to a transport decision and during transport
51.0	**Obstetrics:** Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic. –The student will be able to:
	51.01 Review the anatomic structures and physiology of the reproductive system.
	51.02 Identify and describe the normal events of pregnancy.
	51.03 Describe and demonstrate how to assess an obstetrical patient.
	51.04 Identify and describe the stages of labor and the paramedic's role in each stage.
	51.05 Differentiate between normal and abnormal delivery.
	51.06 Identify and describe complications associated with pregnancy and delivery.
	51.07 State indications of an imminent delivery.
	51.08 Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	51.09 State the steps to assist in the delivery of a neonate including preparation of the mother.
	51.10 Describe and demonstrate how to care for the neonate.
	51.11 Describe how and when to cut the umbilical cord.
	51.12 Discuss the steps in the delivery of the placenta.
	51.13 Demonstrate how to prepare the obstetric patient for delivery.
	51.14 Demonstrate how to assist in the normal cephalic delivery of the fetus.
	51.15 Demonstrate how to deliver the placenta.
	51.16 Describe and demonstrate the management of the mother post-delivery.
	51.17 Describe and demonstrate the procedures for handling abnormal deliveries.
	51.18 Describe and demonstrate the procedures for handling complications of pregnancy including excessive vaginal bleeding, abdominal pain and hypertensive crisis

	51.19 Describe and demonstrate the procedures for handling maternal complications of labor.
	51.20 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	51.21 Describe special considerations of a premature baby.
52.0	**Neonatal Care:** Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic. –The student will be able to:
	52.01 Define the term neonate.
	52.02 Identify antepartum factors that can affect childbirth.
	52.03 Identify intrapartum factors that can term the neonate “high risk”.
	52.04 Identify the factors that lead to premature birth and low birth weight neonates.
	52.05 Discuss pulmonary perfusion and asphyxia.
	52.06 Calculate the APGAR score given various neonate situations.
	52.07 Demonstrate appropriate assessment technique for examining a neonate.
	52.08 Determine when ventilatory assistance is appropriate for a neonate.
	52.09 Prepare appropriate ventilation equipment, adjuncts and technique for a neonate.
	52.10 Determine when chest compressions are appropriate for a neonate.
	52.11 Discuss and demonstrate appropriate chest compression techniques for a neonate.
	52.12 Determine when endotracheal intubation is appropriate for a neonate.
	52.13 Discuss and demonstrate appropriate endotracheal intubation techniques for a neonate.
	52.14 Identify complications related to endotracheal intubation for a neonate.
	52.15 Determine when vascular access is indicated for a neonate.
	52.16 Discuss the routes of medication administration for a neonate.
	52.17 Determine when blow-by oxygen delivery is appropriate for a neonate.
	52.18 Demonstrate blow-by oxygen delivery for a neonate.
	52.19 Determine when an orogastric tube should be inserted during positive-pressure ventilation.

52.20	Demonstrate insertion of an orogastric tube in a neonate.
52.21	Discuss the signs of hypovolemia in a neonate.
52.22	Demonstrate preparation of a neonate resuscitation area.
52.23	Discuss and demonstrate the initial steps in resuscitation of a neonate.
52.24	Demonstrate appropriate assisted ventilations for a neonate.
52.25	Demonstrate appropriate endotracheal intubation technique for a neonate.
52.26	Demonstrate appropriate chest compression and ventilation technique for a neonate.
52.27	Discuss the effects maternal narcotic usage has on the neonate.
52.28	Discuss appropriate transport guidelines for a neonate.
52.29	Determine appropriate receiving facilities for low and high risk neonates.
52.30	Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for meconium aspiration.
52.31	Discuss and demonstrate the assessment and management of meconium aspiration.
52.32	Discuss the pathophysiology of apnea in the neonate.
52.33	Discuss and demonstrate the assessment and management for apnea in the neonate.
52.34	Describe the epidemiology, including the incidence, morbidity/ mortality and risk factors for bradycardia in the neonate.
52.35	Discuss and demonstrate the assessment and management for bradycardia in the neonate.
52.36	Discuss the pathophysiology of premature infants.
52.37	Discuss and demonstrate the assessment and management for premature infants.
52.38	Discuss the pathophysiology of respiratory distress/ cyanosis in the neonate.
52.39	Discuss and demonstrate the assessment and management for respiratory distress/ cyanosis in the neonate.
52.40	Discuss the pathophysiology of seizures in the neonate.
52.41	Discuss and demonstrate the assessment and management for seizures in the neonate.
52.42	Discuss the pathophysiology of fever in the neonate.

	52.43 Discuss and demonstrate the assessment and management for fever in the neonate.
	52.44 Discuss the pathophysiology of hypothermia in the neonate.
	52.45 Discuss and demonstrate the assessment and management for hypothermia in the neonate.
	52.46 Discuss the pathophysiology of hypoglycemia in the neonate.
	52.47 Discuss and demonstrate the assessment and management plan for hypoglycemia in the neonate.
	52.48 Discuss the pathophysiology of vomiting in the neonate.
	52.49 Discuss and demonstrate the assessment and management for vomiting in the neonate.
	52.50 Discuss the pathophysiology of common birth injuries in the neonate.
	52.51 Discuss and demonstrate the assessment and management for common birth injuries in the neonate.
	52.52 Discuss the pathophysiology of cardiac arrest in the neonate.
	52.53 Discuss and demonstrate the assessment and management/treatment plan for cardiac arrest in the neonate.
	52.54 Discuss the pathophysiology of post arrest management of the neonate.
	52.55 Discuss and demonstrate the management to stabilize the post arrest neonate.
	52.56 Demonstrate vascular access cannulation techniques for a newborn except umbilical vein/artery access.
53.0	**Pediatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic. –The student will be able to:
	53.01 Review key growth and developmental characteristics of infants and children and their implications.
	53.02 Identify key anatomical and physiological characteristics of infants and children and their implications.
	53.03 Describe and demonstrate techniques for successful assessment and treatment of infants and children.
	53.04 Outline differences in adult and childhood anatomy and physiology.
	53.05 Identify "normal" age group related vital signs.
	53.06 Determine appropriate airway adjuncts for infants and children.
	53.07 Discuss complications of improper utilization of airway adjuncts with infants and children.
	53.08 Discuss and demonstrate appropriate ventilation devices for infants and children.

53.09	Discuss complications of improper utilization of ventilation devices with infants and children.
53.10	Identify complications of improper endotracheal intubation procedure in infants and children.
53.11	List the indications and methods for gastric decompression for infants and children.
53.12	Differentiate between upper airway obstruction and lower airway disease.
53.13	Describe the general approach to the treatment of children with respiratory distress, failure, or arrest from upper airway obstruction or lower airway disease.
53.14	Discuss the common causes of hypoperfusion in infants and children.
53.15	Identify the major causes of abnormal cardiac rhythms in infants and pediatric.
53.16	Discuss the primary etiologies of cardiopulmonary arrest in infants and children.
53.17	Discuss the appropriate equipment for vascular access in infants and children.
53.18	Identify complications of vascular access for infants and children.
53.19	Describe the primary etiologies of altered level of consciousness in infants and children.
53.20	Identify common lethal mechanisms of injury in infants and children.
53.21	Identify infant and child trauma patients who require spinal immobilization.
53.22	Discuss and demonstrate fluid management and shock treatment for infant and child trauma patient.
53.23	Determine when pain management and sedation are appropriate for infants and children.
53.24	Define child abuse and child neglect
53.25	Review mandatory reporting requirements for child abuse/neglect
53.26	Define children with special health care needs.
53.27	Review basic cardiac life support (CPR) guidelines for infants and children.
53.28	Integrate advanced life support skills with basic cardiac life support for infants and children.
53.29	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.
53.30	Discuss the pathophysiology of respiratory distress/failure in infants and children.
53.31	Discuss and demonstrate the assessment and management for respiratory distress/failure in infants and children.

53.32	Discuss the pathophysiology of hypoperfusion in infants and children.
53.33	Discuss and demonstrate the assessment and management for hypoperfusion in infants and children.
53.34	Discuss the pathophysiology of cardiac dysrhythmias in infants and children.
53.35	Discuss and demonstrate the assessment and management for cardiac dysrhythmias in infants and children.
53.36	Discuss the pathophysiology of neurological emergencies in infants and children.
53.37	Discuss and demonstrate the assessment and management for neurological emergencies in infants and children.
53.38	Discuss the pathophysiology of trauma in infants and children.
53.39	Discuss and demonstrate the assessment and management for trauma in infants and children.
53.40	Discuss the pathophysiology of abuse and neglect in infants and children.
53.41	Discuss and demonstrate the assessment and management for abuse and neglect in infants and children, including documentation and reporting.
53.42	Discuss the pathophysiology of children with special health care needs including technology assisted children.
53.43	Discuss and demonstrate the assessment and management for children with special health care needs including technology assisted children.
53.44	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
53.45	Discuss the parent/caregiver responses to the death of an infant or child.
53.46	Discuss the pathophysiology of SUIDS in infants.
53.47	Discuss the assessment findings associated with SUIDS infants.
53.48	Discuss the management/treatment plan for SUIDS in infants.
53.49	Discuss and demonstrate the use of a length-based resuscitation device for determining equipment sizes, drug doses and other pertinent information for a pediatric patient.
53.50	Demonstrate appropriate treatment/management of intubation complications for infants and children.
53.51	Demonstrate appropriate needle cricothyrootomy in infants and children.
53.52	Demonstrate proper placement of a gastric tube in infants and children.
53.53	Demonstrate an appropriate technique for insertion of peripheral intravenous catheters for infants and children.
53.54	Demonstrate an appropriate technique for administration of intramuscular, inhalation, subcutaneous, rectal, endotracheal and oral medication for infants and children.

	53.55 Demonstrate an appropriate technique for insertion of an intraosseous line for infants and children.
	53.56 Demonstrate proper technique for direct larnyngoscopy and foreign body retrieval in infants and children with a completely obstructed airway.
	53.57 Demonstrate appropriate spinal motion restriction techniques for infant and child trauma patients.
	53.58 Demonstrate treatment of infants and children with the following injuries: 53.58.01 Head injuries. 53.58.02 Chest injuries 53.58.03 Abdominal injuries 53.58.04 Extremity injuries 53.58.05 Burns
	53.59 Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
	53.60 Demonstrate proper infant and child CPR integrating ALS as appropriate
	53.61 Demonstrate proper techniques for performing infant and child defibrillation and synchronized cardioversion.
54.0	**Geriatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic. –The student will be able to:
	54.01 Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	54.02 Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	54.03 Discuss factors that may complicate the assessment of the elderly patient.
	54.04 Describe principles that should be employed when assessing and communicating with the elderly.
	54.05 Discuss common complaints of elderly patients.
	54.06 Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
	54.07 Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
	54.08 Discuss and demonstrate the assessment and management of the elderly patient with pulmonary complaints, including: 54.08.01 pneumonia 54.08.02 chronic obstructive pulmonary diseases 54.08.03 pulmonary embolism.
	54.09 Identify the need for intervention and transport of the elderly patient with pulmonary complaints.

	54.10 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the cardiovascular system, including: 54.10.01 myocardial infarction 54.10.02 heart failure 54.10.03 dysrhythmias 54.10.04 aneurism 54.10.05 hypertension.
	54.11 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the nervous system, including: 54.11.01 cerebral vascular disease 54.11.02 delirium 54.11.03 dementia 54.11.04 Alzheimer's disease 54.11.05 Parkinson's disease.
	54.12 Describe the epidemiology for endocrine diseases in the elderly, including incidence, morbidity/mortality, risk factors, and prevention strategies for patients with diabetes and thyroid diseases.
	54.13 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the endocrine system, including diabetes and thyroid diseases.
	54.14 Discuss and demonstrate the assessment and management of the elderly patient with the following: 54.14.01 gastrointestinal problems. 54.14.02 toxicological problems 54.14.03 orthopedic injuries, burns and head injuries 54.14.04 drug and alcohol abuse 54.14.05 environmental considerations 54.14.06 depression or suicide risk factors
	54.15 Demonstrate the ability to adjust assessment to a geriatric patient.
	54.16 Discuss the epidemiology of herpes zoster and inflammatory arthritis in the elderly
55.0	**Patients with Special Challenges:** Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic. –The student will be able to:
	55.01 Discuss the incidence of abuse and assault.
	55.02 Describe the categories of abuse.
	55.03 Discuss examples of each of the following: 55.03.01 domestic partner abuse 55.03.02 elder abuse 55.03.03 child abuse 55.03.04 sexual assault

55.04	Describe the characteristics associated with the profile of the typical abuser of: 55.04.01 domestic abuser 55.04.02 elder abuser 55.04.03 child abuser
55.05	Describe the characteristics associated with the profile of the typical assailant of sexual assault.
55.06	Identify the profile of the "at-risk" domestic partner, "at-risk" elder and "at-risk" child.
55.07	Discuss the legal aspects associated with abuse situations including mandatory reporting.
55.08	Discuss the documentation associated with abused and assaulted patient.
55.09	Demonstrate the ability to assess and manage a domestic partner, elder or child abused patient.
55.10	Demonstrate the ability to assess and manage a sexually assaulted patient.
55.11	Recognize the patient with a hearing impairment.
55.12	Anticipate accommodations that may be needed in order to properly manage the patient with a hearing impairment.
55.13	Recognize the patient with a visual impairment.
55.14	Anticipate accommodations that may be needed in order to properly manage the patient with a visual impairment
55.15	Describe the various etiologies and types of speech impairments.
55.16	Recognize the patient with a speech impairment.
55.17	Describe paraplegia/quadriplegia.
55.18	Describe the various etiologies of mental illness.
55.19	Recognize the presenting signs of the following: 55.19.01 mental illnesses 55.19.02 Developmental disability 55.19.03 Down’s syndrome
55.20	Describe the various etiologies of emotional impairment.
55.21	Recognize the patient with an emotional impairment.

55.22	Describe the following diseases/illnesses and identify each of their possible presenting signs: 55.22.01 Arthritis, 55.22.02 Cancer, 55.22.03 Cerebral palsy, 55.22.04 Cystic fibrosis 55.22.05 Multiple sclerosis, 55.22.06 Muscular dystrophy, 55.22.07 Myasthenia gravis, 55.22.08 Poliomyelitis, 55.22.09 Spina bifida, 55.22.10 Patients with a previous head injury
55.23	Identify a patient that is terminally ill.
55.24	Recognize sign(s) of financial impairments.
55.25	Identify the importance of home health care medicine as related to the ALS level of care.
55.26	Differentiate between the role of EMS provider and the role of the home care provider.
55.27	Discuss the aspects of home care that result in enhanced quality of care for a given patient.
55.28	Discuss the aspects of home care that have a potential to become a detriment to the quality of care for a given patient.
55.29	List complications commonly seen in the home care patients, which result in their hospitalization.
55.30	Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
55.31	List the stages of the grief process and relate them to an individual in hospice care.
55.32	Given a series of home care scenarios, determine which patients should receive follow-up home care and which should be transported to an emergency care facility.
55.33	Describe airway maintenance devices typically found in the home care environment.
55.34	Describe devices that provide or enhance alveolar ventilation in the home care setting.
55.35	Describe and access indwelling catheters, implanted central IV ports and central line monitoring.
55.36	Describe complications of assessing each of the airway, vascular access, and GI/GU devices described above.
55.37	Describe the indications and contraindications for urinary catheter insertion in an out-of-hospital setting.
55.38	Identify failure of GI/GU devices found in the home care setting.
55.39	Identify failure of ventilatory devices found in the home care setting.

	55.40 Identify failure of vascular access devices found in the home care setting.
	55.41 Identify and describe the failure of wound drains.
	55.42 Discuss the rights of the terminally ill.
	55.43 Observe for an infected or otherwise complicated venous access point.
	55.44 Demonstrate proper tracheotomy care.
	55.45 Demonstrate the insertion of a new inner cannula and/or the use of an endotracheal tube to temporarily maintain an airway in a tracheostomy patient.
	55.46 Demonstrate how to replace an ostomy tube.
56.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	56.01 Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
57.0	**Incident Management:** Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system. –The student will be able to:
	57.01 Review the EMT standards and benchmarks for Incident Management and apply a complex depth and comprehensive breadth of establishing and working within the incident management system.
58.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:
	58.01 Review the EMT standards and benchmarks for Multiple Casualty Incidents.
59.0	**Air Medical:** Demonstrate a complex depth, comprehensive breadth of air medical transport risks, needs and advantages. –The student will be able to:
	59.01 Describe the advantages and disadvantages of air medical transport.
	59.02 Identify appropriate reasons for the use of air medical for emergency patient transport.
	59.03 Describe the risks involved with the use of air medical transport
	59.04 Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response
	59.05 Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel
60.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	60.01 Review the EMT standards and benchmarks for Vehicle Extrication.
61.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:

	61.01 Review the EMT standards and benchmarks for Hazardous Materials Awareness.
62.0	**Mass Casualty Incidents due to Terrorism and Disasters:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster. –The student will be able to:
	62.01 Review the EMT standards and benchmarks for Mass Casualty Incidents.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The Paramedic standards and benchmarks in this framework include all of the content, knowledge and skills at the EMT level in addition to the Paramedic objectives. For those standards that state "Review EMT Objectives." Please refer to the EMT curriculum framework for specific objectives.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Technician –ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	W170212
CIP Number	0351090408	0351090413
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	12 credit hours	300 clock hours
CTSO	HOSA: Future Health Professionals	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics 31-9099 Healthcare Support Workers, All Other	29-2041 Emergency Medical Technicians and Paramedics 31-9099 Healthcare Support Workers, All Other
Basic Skills Level:	N/A	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This is an instructional program that prepares students for employment as emergency medical technicians SOC Code 29-2041 (Emergency Medical Technicians and Paramedics) to function at the basic pre-hospital emergency medical technician level and treat various medical/trauma conditions using appropriate equipment and materials. The program prepares students for certification as EMT's in accordance with Chapter 64J of the Florida Administrative Code. The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation (DOT) National EMS Education Standards for EMT. This is the initial level for a career in emergency medical services and the primary prerequisite for paramedic training and certification.

The content includes but is not limited to patient assessment, airway management, cardiac arrest, external and internal bleeding and shock, traumatic injuries, fractures, dislocations, sprains, poisoning, heart attack, stroke, diabetes, acute abdomen, communicable diseases, patients with abnormal behavior, alcohol and drug abuse, the unconscious state, emergency childbirth, burns, environmental hazards, communications,

reporting, extrication and transportation of patient. The student must be proficient in patient assessment and evaluation, the use of suctioning devices, oral and nasal airways, resuscitation devices, oxygen equipment, sphygmomanometer and stethoscope, splints of all types, pneumatic anti-shock garments, extrication tools, dressings and bandages, stretchers and patient carrying devices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 1 occupational completion point and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	EMS0110	Emergency Medical Technician (EMT)	300 hours	29-2041

College Credit

When offered at the community/state college level, this ATD program is part of the Emergency Medical Services (1351090402) program and has a length of 12 credits.

Regulated Programs

This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Please refer to chapter 401 F.S. for more information on disqualification for the EMT license through the Office of Emergency Medical Services (EMS), Department of Health.

An EMT program must be taught by an instructor meeting the qualifications as set forth in 64J-1.0201 FAC.

Students must complete this program, or demonstrate the mastery of skills standards contained in this program, before advancing in either of the other programs in this cluster. Completion of this program should prepare the student for the certification examination approved for the state of Florida.

An American Heart Association or Red Cross certification or equivalent in "professional" BLS is required of all candidates for entrance into an EMT program.

The Student Performance Standards for Emergency Medical Technology-EMT were adapted from the US Department of Transportation (DOT) National EMS Educational Standards for EMT.

Once students have successfully completed the EMT Program, they may be given a certificate stating they have met all Emergency Medical Responder competency requirements.

Florida Statute 401.2701 requires that the instructor-student ratio should not exceed 1:6. Hospital activity shall include a minimum of 20 hours of supervised clinical supervision, including 10 hours in a hospital emergency department. Clinical activity shall include appropriate patient assessment skills, intervention and documentation relevant to each clinical rotation.

Field internship shall include a competency based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include a minimum of 5 emergency runs resulting in patient care and transport appropriate for the EMT. In addition, the patient care component should include minimum competencies in patient assessment, airway management and ventilation, trauma and medical emergencies.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstration of a simple depth and foundational breadth of EMS systems.
02.0 Demonstration of a simple depth, simple breadth of research and evidence-based decision making.
03.0 Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness.
04.0 Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing.
05.0 Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication.
06.0 Demonstration of a simple depth and simple breadth of the principles of therapeutic communication.
07.0 Demonstration of a fundamental depth, foundational breadth of medical legality and ethics.
08.0 Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
09.0 Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms.
10.0 Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation.
11.0 Demonstrate the application of fundamental knowledge of life span development to patient assessment and management.
12.0 Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care.
13.0 Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency.
14.0 Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT.
15.0 Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT.
16.0 Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT.
17.0 Demonstrate a fundamental depth, foundational breadth of respiration.
18.0 Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation.
19.0 Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.**
20.0 Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations.
21.0 Demonstrate a fundamental depth, foundational breadth of the components of history taking.
22.0 Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment.
23.0 Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT.
24.0 Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations.
25.0 Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints.
26.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups.
27.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups.
28.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups.
29.0 Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups.

30.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups.
31.0 Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups.
32.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups.
33.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups.
34.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
35.0 Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups.
36.0 Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups.
37.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups.
39.0 Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups.
40.0 Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure.
41.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
42.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups.
43.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups.
44.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups.
45.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups.
48.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups.
49.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups.
50.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups.
51.0 Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries.
52.0 Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT.

53.0 Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT.
54.0 Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT.
55.0 Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT.
56.0 Demonstrate a simple depth, simple breadth of management of the patient with special challenges.
57.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
58.0 Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system.
59.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
60.0 Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response.
61.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
63.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Technician –ATD**
PSAV Number: **W170212**

Course Number: EMS0110 **Occupational Completion Point: A** **Emergency Medical Technician – 300 Hours – SOC Code 29-2041**	
This certificate program is part of the Emergency Medical Services AS degree program (1351090402). At the completion of this program, the student will be able to:	
01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
	01.01 Define Emergency Medical Services (EMS) systems.
	01.02 Discuss the historical background of the development of the EMS system.
	01.03 Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
	01.04 Discuss the specific statutes and regulations regarding the EMS system in Florida.
	01.05 Discuss vehicle and equipment readiness
	01.06 Characterize the EMS system's role in prevention and public education.
	01.07 Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.
	01.08 Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
	01.09 Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
	01.10 Define quality improvement and discuss the EMT's role in the process.
	01.11 Identify the basics of common methods of payment for healthcare services.
	01.12 Analyze attributes and attitudes of an effective leader.
	01.13 Demonstrate effective techniques for managing team conflict.
	01.14 Describe factors that influence the current delivery system of healthcare.

	01.15 Discuss the importance of continuing medical education and skills retention.
	01.16 Assess personal attitudes and demeanor that may distract from professionalism.
	01.17 Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
	02.01 Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
	02.02 Explain the importance to assess and treat patients based on evidence based decision making.
	02.03 Interpret graphs, charts and tables.
	02.04 Measure time, temperature, distance, capacity, and mass/weight.
	02.05 Convert and use traditional and metric units.
	02.06 Make estimations, approximations and judge the reasonableness of the result.
	02.07 Convert time from a 12 hour format to a 24 hour format
	02.08 Demonstrate ability to evaluate and draw conclusions.
	02.09 Calculate ratios.
	02.10 Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:
	03.01 Explain the need to determine scene safety.

03.02	Discuss the importance of body substance isolation (BSI).
03.03	Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.
03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
03.11	State the guidelines for reaching and their application.
03.12	State the guidelines for pushing and pulling.
03.13	Discuss patient positioning in common emergency situations.
03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.15	Define “infectious disease” and “communicable disease.”
03.16	Describe the routes of transmission for infectious disease.
03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.18	Explain how immunity to infectious diseases is acquired.
03.19	Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
03.20	Describe the components of physical fitness and mental wellbeing.
03.21	Identify personal health practices and environmental factors which affect function of each of the major body systems.
03.22	Develop an awareness of complementary and alternative health practices.
03.23	Explain the basic concepts of positive self-image, wellness and stress.
03.24	Develop a wellness and stress control plan that can be used in personal and professional life.

	03.25 Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture's MyPlate food guide.)
	03.26 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.
	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:

	05.01 Understand the basic principles of the various types of communications equipment used in EMS
	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.
	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.
	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.

07.03	Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
07.04	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.05	Explain the importance, necessity and legality of patient confidentiality.
07.06	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.07	Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
07.08	Differentiate between civil tort and criminal actions
07.09	List the elements of negligence and defenses/protections from liability.
07.10	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.11	Define ethics and morality and discuss their implication for the EMT.
07.12	Differentiate between licensure and certification as they apply to EMS.
07.13	Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
07.16	Describe the appropriate patient management and care techniques in a refusal of care situation.
07.17	Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
07.18	Describe the criteria necessary to honor an advance directive.
07.19	Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
08.01	Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal

	08.01.05 superior 08.01.06 inferior 08.01.07 anterior 08.01.08 posterior 08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
08.02	Chart the life support chain, aerobic metabolism and anaerobic metabolism.
08.03	Define anatomy, physiology, pathophysiology and homeostasis.
08.04	Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
08.05	Explain cellular anatomy and physiology.
08.06	Explain cellular respiration.
08.07	Discuss cell division.
08.08	Describe the different types of muscle tissues including skeletal, smooth and cardiac.
08.09	Describe the functions and divisions of the skeletal system including the classifications of bones.
08.10	Name and identify the location of the bones of the axial and appendicular skeleton.
08.11	Describe the classification and types of joints.
08.12	Describe the function of muscles.
08.13	Identify major muscles of the body

	08.14 Describe the general function of the respiratory system and its structures.
	08.15 Discuss the mechanisms of breathing including: 08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes 08.15.03 Dead space 08.15.04 Lung compliance
	08.16 Explain the diffusion of gases in external and internal respiration.
	08.17 Describe oxygen and carbon dioxide transport in the blood.
	08.18 Describe nervous and chemical mechanisms that regulate Respirations.
	08.19 Discuss respiration and acid-base balance.
	08.20 Describe the composition and function of blood and plasma.
	08.21 Identify and describe the anatomical structures and functions of the cardiovascular system.
	08.22 Discuss the hemodynamics of blood pressure.
	08.23 Discuss the role of nutrition, metabolism and body temperature on body function.
	08.24 Describe the causes, advantages and disadvantages of a fever
	08.25 Discuss the hypothalamus functions as the thermostat in the body
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:
	09.01 Identify medical terminology word parts such as: 09.01.01 root words 09.01.02 prefixes 09.01.03 suffixes 09.01.04 combining forms
	09.02 Correctly utilize medical terminology describing each of the following: 09.02.01 body structures 09.02.02 functions, 09.02.03 conditions and disorders 09.02.04 body regions 09.02.05 cavities 09.02.06 areas 09.02.07 landmarks
	09.03 Correctly use medical abbreviations and symbols.

	09.04 Read and understand basic medical documentation in medical records and medical reports.
	09.05 Communicate with healthcare professionals utilizing basic medical terminology.
	09.06 Explain the rationale for using accepted medical terminology correctly.
10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:
	10.01 Discuss signs of irreversible death.
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:
	12.01 Define public health and explain the goal of the public health field.
	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology

	12.05 Discuss ways of EMS involvement in injury prevention.
	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:
	13.01 Explain the “six rights” of medication administration and describe how each one related to EMS.
	13.02 Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
	13.03 Describe the difference between a generic medication name and trade name, and provide an example of each.
	13.04 Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
	13.05 Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
	14.01 Discuss the difference between administration versus assistance of patient medications.
	14.02 Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
	15.01 State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication 15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions

	15.01.09 Doses of medications
	15.02 Discuss the forms in which the medications may be found.
	15.03 Demonstrate the steps in properly inspecting each type of medication.
16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.

	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.
	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:
	17.01 Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02 Describe the oxygenation process
	17.03 Explain both external and internal respiration process
	17.04 Discuss the various pathophysiologies of the respiratory system.
	17.05 Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06 State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07 Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08 Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10 Demonstrate the correct operation of oxygen tanks and regulators.
	17.11 Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12 Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13 Discuss the differences between negative pressure and positive pressure ventilation.
18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:

	18.01 Demonstrate how to artificially ventilate a patient with a pocket mask.
	18.02 Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03 Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.
	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.
	20.03 Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).

	20.04	Discuss and demonstrate methods of assessing the airway and providing airway care.
	20.05	Describe and demonstrate methods used for assessing if a patient is breathing
	20.06	Differentiate between a patient with adequate and inadequate breathing.
	20.07	Distinguish between methods of assessing breathing for all age groups.
	20.08	Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09	Compare the methods of providing airway care in all age groups.
	20.10	Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11	Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12	Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13	Describe when it is appropriate to expose the patient completely
	20.14	Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:	
	21.01	Determine the chief complaint.
	21.02	Investigate the chief complaint.
	21.03	Describe components of the patient history
	21.04	Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05	Recognize and respond to the feelings patients experience during assessment.
	21.06	Discuss the value of obtaining a family and social history.
	21.07	Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:	
	22.01	Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02	Discuss the components and techniques of the physical exam and skills involved.
	22.03	Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.

	22.04 State the circumstances for performing a rapid assessment.
	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.

	24.05 Explain the rationale of recording additional sets of vital signs.
25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
	25.01 Identify the assessment factors for a patient with a medical complaint including:
	25.01.01 scene safety
	25.01.02 environmental factors
	25.01.03 chief complaint
	25.01.04 non-life threatening conditions
	25.01.05 distracting injuries
	25.01.06 tunnel vision
	25.01.07 patient cooperation
	25.01.08 rescuer attitude
	25.02 Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the nervous system.
	26.02 Describe the pathophysiology of the following neurologic disorders: 26.02.01 Altered Mental Status 26.02.02 Stroke 26.02.03 Transient Ischemic Attack 26.02.04 Headache 26.02.05 Seizures 26.02.06 Syncope
	26.03 Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.
	26.04 Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
	26.05 Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
	26.06 Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.
	26.07 Define “altered mental status” and identify the possible causes

	26.08 Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include: 26.08.01 strokes 26.08.02 headaches 26.08.03 seizures 26.08.04 altered mental status
	26.09 Discuss the transport of the stroke patient to the appropriate treatment center.
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	27.01 Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
	27.02 Describe the pathophysiology of the following abdominal and gastrointestinal disorders: 27.02.01 Abdominal Pain 27.02.02 Acute Abdomen 27.02.03 Peritonitis 27.02.04 Appendicitis 27.02.05 Pancreatitis 27.02.06 Cholecystitis 27.02.07 Gastrointestinal bleeding 27.02.08 Esophageal Varicies 27.02.09 Gastroenteritis 27.02.10 Ulcers 27.02.11 Intestinal Obstruction 27.02.12 Hernia 27.02.13 Abdominal Aortic Aneurysm
	27.03 Define the term," acute abdomen."
	27.04 Identify the signs and symptoms, and common causes of an acute abdomen.
	27.05 Define upper and lower gastrointestinal bleeding.
	27.06 Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.
	27.07 Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.
	27.08 Define acute gastroenteritis.
	27.09 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	27.10 Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology

	disorders/emergencies for all age groups. –The student will be able to:
	28.01 Define and differentiate allergic reaction and anaphylaxis
	28.02 Describe the pathophysiology of the following immunology disorders: 28.02.01 Allergic Reaction 28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
	28.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
	28.04 State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
	28.05 Demonstrate the use of epinephrine auto-injector
	28.06 Review the anatomy and physiology of the organs and structures related to anaphylaxis
	28.07 Describe the incidence, morbidity and mortality of anaphylaxis.
	28.08 Identify the risk factors most predisposing to anaphylaxis.
	28.09 Recognize the signs and symptoms related to anaphylaxis
	28.10 Describe the prevention of anaphylaxis and appropriate patient education.
	28.11 List common antigens most frequently associated with anaphylaxis.
	28.12 Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
	29.01 List the causes of infectious diseases
	29.02 Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus

	29.02.07	Multidrug-Resistant Organisms
29.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.	
29.04	Discuss mandatory notification to State or Federal agencies of various diseases.	
29.05	Identify patients with risk factors for infectious disease.	
29.06	Explain the principles and practices of infection control in prehospital care.	
29.07	Describe and discuss the rationale for the various types of PPE.	
29.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).	
29.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.	
29.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.	
29.11	Demonstrate the ability to comply with body substance isolation guidelines.	
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:	
30.01	Review the anatomy and physiology of the endocrine system and its main function in the body.	
30.02	Describe the pathophysiology of the following endocrine disorders:	
	30.02.01	Insulin Dependent Diabetes Mellitus
	30.02.02	Non-Insulin Dependent Diabetes Mellitus
	30.02.03	Hypoglycemia
	30.02.04	Hyperglycemia
	30.02.05	Diabetic Ketoacidosis(DKA)
	30.02.06	Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
30.03	Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.	
30.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.	
30.05	State the following for oral glucose:	
	30.05.01	Generic and trade names
	30.05.02	Medication forms
	30.05.03	Dose
	30.05.04	Administration
	30.05.05	Action
	30.05.06	Contraindications
30.06	Demonstrate the steps of using a glucometer device and administering oral glucose.	

	30.07 Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
	30.08 Discuss the general assessment findings associated with endocrinologic emergencies.
	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.
	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.

	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.
32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups. –The student will be able to:
	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.

33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.
	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning 33.02.02 Carbon Monoxide Poisoning 33.02.03 Cyanide Poisoning 33.02.04 Exposure to Acid or Alkaline Substances 33.02.05 Exposure to Hydrocarbons 33.02.06 Methanol Ingestion 33.02.07 Isopropanol Ingestion 33.02.08 Ethylene Glycol Ingestion 33.02.09 Exposure to Poisonous Plants 33.02.10 Drug Withdrawal 33.02.11 Alcoholic Syndrome 33.02.12 Withdrawal syndrome (including delirium tremens) 33.02.13 Illicit Drug Use 33.02.14 Medication Overdose
	33.03 List various ways that poisons enter the body.
	33.04 List signs/symptoms associated with poisoning.
	33.05 Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.
	33.06 Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
	33.07 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	34.01 Review the basic anatomy and physiology of the respiratory system.
	34.02 Describe the pathophysiology of the following respiratory disorders: 34.02.01 Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma 34.02.02 Pulmonary Edema 34.02.03 Spontaneous Pneumothorax 34.02.04 Hyperventilation Syndrome 34.02.05 Epiglottitis 34.02.06 Pertussis 34.02.07 Cystic Fibrosis 34.02.08 Pulmonary Embolism 34.02.09 Pneumonia

	34.02.10	Viral Respiratory Infections
	34.02.11	Poisonous Exposures
34.03	List signs of adequate air exchange.	
34.04	State the signs and symptoms of a patient with respiratory distress.	
34.05	Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.	
34.06	State the following for the metered-dose inhaler:	
	34.06.01	generic name
	34.06.02	medication forms
	34.06.03	dose
	34.06.04	administration
	34.06.05	action
	34.06.06	indications
	34.06.07	contraindications
34.07	Describe and demonstrate the steps in facilitating the use of an inhaler.	
34.08	Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.	
34.09	Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.	
34.10	Demonstrate proper use of airway and ventilation devices.	
34.11	Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.	
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:	
35.01	Review the anatomy and physiology of blood.	
35.02	Describe the pathophysiology of the following hematology disorders:	
	35.02.01	Anemia
	35.02.02	Sickle Cell Anemia / Sickle Cell Crisis
	35.02.03	Hemophilia
35.03	State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.	
35.04	Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.	
35.05	Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.	
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:	
	36.01.01	Review the basic anatomy and physiology of the genitourinary and renal systems

	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure
	36.03 Understand the basic principles of kidney dialysis.
	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.

39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
39.01	Discuss the recognition and management of an epistaxis.
39.02	Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.
40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
40.01	Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
40.02	Discuss and identify causes and pathophysiology of respiratory failure and arrest.
40.03	Discuss and identify causes and pathophysiology of cardiac failure or arrest.
40.04	Discuss the various types and degrees of shock.
40.05	Discuss and identify post resuscitation and management.
40.06	Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
40.07	Show Provider (AHA guidelines) certification required prior to rescuer program completion.
40.08	Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
40.09	Define and differentiate compensated and decompensated hemorrhagic shock.
40.10	Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
40.11	Demonstrate how to perform one and two rescuer CPR, adult, child, infant
40.12	Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
40.13	Demonstrate the steps of rescuer level appropriate post resuscitative care
40.14	Management and resuscitation of the critical patient
40.15	Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
40.16	Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
41.01	Discuss and define pathophysiology of the trauma patient

	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma. 41.04.01 Define energy, force, laws of motion 41.04.02 Explain the physics of trauma
	41.05 Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to occur and include: 41.05.01 Effects of high, medium and low velocity penetrating trauma 41.05.02 Primary, secondary, tertiary and miscellaneous blast injuries 41.05.03 Factors to consider of a patient injured in a fall. 41.05.04 Consider all age groups
	41.06 Describe the kinematics of penetrating injuries.
	41.07 Discuss the role of documentation in trauma.
	41.08 Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.
	41.09 Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
	41.10 Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)
	41.11 Discuss the National Trauma Triage Protocol of injured Patients
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:
	42.01 Review the anatomy and physiology of the circulatory system
	42.02 Review the different types of bleeding and classes of hemorrhage.
	42.03 List signs and symptoms of shock (hypo-perfusion).
	42.04 Describe the body's physiologic response to bleeding.
	42.05 Review the pathophysiology of hemorrhagic shock.
	42.06 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).
	42.07 Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.
	42.08 Demonstrate how to apply a commercial tourniquet.
	42.09 Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.

43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
	43.02 Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
	43.03 Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion, 43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:

45.01	Review the anatomy and physiology of the musculo-skeletal system.
45.02	and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains 45.02.03 Strains 45.02.04 Pelvic Injury 45.02.05 Amputation
45.03	Describe the different types of orthopedic injuries including: 45.03.01 Fractures 45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard

	45.15.02	Improvised
	45.15.03	Soft
	45.15.04	Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.	
46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:	
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.	
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.	
46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries:	
	46.03.01	wounds
	46.03.02	burns
	46.03.03	high pressure injection
	46.03.04	crush syndrome injuries
	46.03.05	compartment syndrome injuries
	46.03.06	contusion
	46.03.07	hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries:	
	46.04.01	abrasions
	46.04.02	lacerations
	46.04.03	major arterial lacerations
	46.04.04	avulsions,
	46.04.05	bites
	46.04.06	impaled objects
	46.04.07	amputations
	46.04.08	incisions
	46.04.09	crush injuries
	46.04.10	blast injuries
	46.04.11	Penetrations/punctures.
46.05	Identify types of burn injuries, including:	
	46.05.01	thermal burn
	46.05.02	inhalation burn
	46.05.03	chemical burn
	46.05.04	electrical burn
	46.05.05	radiation exposure
46.06	Describe the depth classifications of burn injuries, including:	
	46.06.01	superficial burn
	46.06.02	partial-thickness burn
	46.06.03	full-thickness burn
	46.06.04	Other depth classifications

	46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
	46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.
	46.09	Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents
	46.10	Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11	Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12	Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13	Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:	
	47.01	Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02	Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03	Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04	Recognize and manage life threats due to head, neck and spine trauma.
	47.05	Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06	Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.

48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including: 48.02.01 Increased intracranial pressure (ICP) 48.02.02 Concussion 48.02.03 Contusion
	48.03 Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including: 48.03.01 Brain Trauma 48.03.02 Spinal Cord Trauma 48.03.03 Cervical Spine Trauma
	48.04 Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.
	48.05 Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.
	48.06 Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.
	48.07 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
	48.08 Demonstrate specific management techniques for a patient with a suspected spinal cord injury.
	48.09 Demonstrate various methods for stabilization and removal of a helmet.
	48.10 Demonstrate documentation of assessment before, during and after spinal motion restriction.
	48.11 Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:
	49.01 Review the anatomy and physiology for the following trauma patients: 49.01.01 pregnant 49.01.02 pediatric 49.01.03 geriatric 49.01.04 cognitively impaired
	49.02 Discuss the pathophysiology and MOI of trauma in the following patients: 49.02.01 pregnant 49.02.02 pediatric 49.02.03 geriatric 49.02.04 cognitively impaired
	49.03 Discuss and demonstrate unique assessment and management considerations for the following trauma patients: 49.03.01 pregnant 49.03.02 pediatric

	49.03.03	geriatric
	49.03.04	cognitively impaired
49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.	
50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:	
50.01	Define drowning and discuss its incidence, rick factors and prevention.	
50.02	Discuss the pathophysiology and MOI of the following:	
	50.02.01	Drowning and water related incidents
	50.02.02	temperature-related illness
	50.02.03	bites and envenomation
	50.02.04	dysbarism such as high-altitude edema
	50.02.05	diving injuries
	50.02.06	lightning (electrical) injury
	50.02.07	high altitude illness
50.03	Describes and demonstrate the assessment and management for a patient with the following:	
	50.03.01	Drowning and water related incidents
	50.03.02	temperature-related illness
	50.03.03	bites and envenomation
	50.03.04	dysbarism such as high-altitude edema
	50.03.05	diving injuries
	50.03.06	lightning (electrical) injury
	50.03.07	high altitude illness
50.04	Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.	
50.05	Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.	
50.06	Explain the five ways a body can lose heat	
50.07	Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.	
50.08	Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.	
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:	
51.01	Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.	
51.02	Discuss the golden principle of out-of-hospital trauma care	
51.03	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.04	Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.	

52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:
	52.01 Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy
	52.02 Define the stages of labor and discuss how to assess them
	52.03 Differentiate between normal delivery, abnormal delivery and complications associated with delivery.
	52.04 Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	52.05 State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.06 Describe how to care for the newborn post-delivery.
	52.07 Describe the management of the mother post-delivery.
	52.08 State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.09 Describe the procedures for handling complications of pregnancy
	52.10 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	52.11 Describe special patient care considerations of a premature baby.
	52.12 Demonstrate how to listen to fetal heart tones.
	52.13 Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.14 Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.15 Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:
	53.01 Discuss and demonstrate assessment and management considerations of a neonate.
	53.02 Define the term neonate.
	53.03 Identify the factors that lead to premature birth and low birth weight newborns.
	53.04 Calculate the APGAR score given various newborn situations.
	53.05 Discuss the common signs when ventilator assistance is appropriate for a neonate.
	53.06 Identify and discuss the use of oxygen/airway adjuncts in the neonate

	53.07 Discuss the steps in resuscitation of a neonate
	53.08 Discuss the signs of hypovolemia in a newborn.
	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.
	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.

	54.12	Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13	Describe the common causes, assessment and management of neurological emergencies in infants and children.
	54.14	Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15	Demonstrate proper technique for suctioning of infants and children.
	54.16	Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17	Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18	Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:	
	55.01	Define and discuss the term “geriatrics.”
	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer’s disease and Parkinson’s disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.

56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:
56.01	Define child abuse / neglect
56.02	Define children with special health care needs.
56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
56.05	Discuss the pathophysiology of children with special health care needs including technology
56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
56.07	Discuss the incidence and categories of abuse and assault.
56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.
56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.

	56.21 Define hospice care and comfort care.
	56.22 List the stages of the grief process and relate them to an individual in hospice care.
	56.23 Describe airway maintenance devices typically found in the home care environment.
	56.24 Describe indwelling catheters, implanted central IV ports and central line monitoring.
	56.25 Identify failure of GI/GU devices found in the home care setting.
	56.26 Identify failure of ventilating devices found in the home care setting.
	56.27 Identify failure of vascular access devices found in the home care setting.
	56.28 Demonstrate the ability to assess a spouse, elder or child abused patient.
	56.29 Demonstrate the ability to assess a sexually assaulted patient.
	56.30 Demonstrate the assessment of a patient with a sensory deficit or developmental disability.
	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.

	58.03 Discuss the importance of NIMS (National Incidence Management System).
	58.04 Describe the functional components of the incident management system in terms of the following: 58.04.01 Command 58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning
	58.05 Differentiate between singular and unified command and when each is most applicable.
	58.06 Describe the role of command
	58.07 Describe the need for transfer of command and procedures for transferring it.
	58.08 List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging, 58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications
	58.09 Describe techniques used to allocate patients to hospitals and track them.
	58.10 List the physical and psychological signs of critical incident stress.
	58.11 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:
	59.01 Describe essential elements of scene size-up when arriving at a potential MCI.
	59.02 Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
	59.03 Describe the role of the physician at multiple casualty incidents.
	59.04 Define triage and describe the principles of triage.
	59.05 Describe the START (simple triage and rapid treatment) method of initial triage.

	59.06 Describe techniques used to allocate patients to hospitals and track them.
	59.07 List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control 59.07.03 Burn management 59.07.04 Patient packaging/immobilization
	59.08 List the physical and psychological signs of critical incident stress.
	59.09 Describe the role of critical incident stress management sessions in MCIs.
	59.10 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
	59.11 Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.
	59.12 Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:
	60.01 Discuss safe air medical operations.
	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.
	60.04 Describe the advantages and disadvantages of air medical transport.
	60.05 Identify the conditions/situations in which air medical transport should be considered.
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.
	60.07 Perform setting up an air medical helicopter landing zone.
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication
	61.02 Describe personal and patient safety during vehicle extrication.
	61.03 Explain the difference between simple access and complex access in vehicle extrication
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
	61.05 Discuss the use of simple hand tools used for vehicle extrication

	61.06	Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.
	61.07	List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems 61.07.03 catalytic converters and conventional fuel systems 61.07.04 stored energy 61.07.05 alternate fuel systems
	61.08	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
	61.09	Describe the electrical hazards commonly found at highway incidents (above and below ground).
	61.10	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
	61.11	Explain typical door anatomy and methods to access through stuck doors.
	61.12	Explain SRS or "air bag" systems and methods to neutralize them.
	61.13	Demonstrate the use of wood cribbing to stabilize a vehicle.
	61.14	Demonstrate how to gain access to a patient by using a spring- loaded center punch.
62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:	
	62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following: 62.01.01 poison control center 62.01.02 medical control 62.01.03 material safety data sheets (MSDS), 62.01.04 reference textbooks 62.01.05 computer databases 62.01.06 Computer-Aided Management of Emergency Operations (CAMEO) 62.01.07 CHEMTREC 62.01.08 technical specialists 62.01.09 Agency for toxic substances and disease registry
	62.02	Explain primary and secondary contamination risk.
	62.03	List and describe the following routes of exposure:
		62.03.01 topical
		62.03.02 respiratory
		62.03.03 gastrointestinal

	62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.	
62.05	List and explain the common signs, symptoms and treatment for the following substances:	
	62.05.01	corrosives (acids/alkalis)
	62.05.02	pesticides (carbamates / organophosphates),
	62.05.03	chemical asphyxiants (cyanide/carbon monoxide)
	62.05.04	hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients	
62.07	Determine the appropriate level of PPE by considering the following:	
	62.07.01	Types
	62.07.02	Application
	62.07.03	Use and Limitations
	62.07.04	Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.	
62.09	Demonstrate the donning and doffing of appropriate PPE.	
62.10	Set up and demonstrate an emergency two-step decontamination process.	
62.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials	
62.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material	
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:	
63.01	Describe the role of the EMT on the scene of a natural or man-made disaster	
63.02	Define the different types of terrorism and provide examples of incidents of each.	
63.03	Describe personal and patient safety during a natural or man-made disaster.	
63.04	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.	
63.05	Discuss the National Terrorism Advisory System	
63.06	Discuss factors to consider when responding to a terrorist situation	
63.07	Discuss important actions to take at the scene of a terrorist event such as:	
	63.07.01	scene safety
	63.07.02	personal protection
	63.07.03	notification procedures
	63.07.04	available resources

	63.07.05 working with in the command system
63.08	List the main categories of weapons of mass destruction
63.09	Discuss the different types of chemical agents and their signs and symptoms
63.10	Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
63.11	Define the different types of radiations and their effect on the human body.
63.12	Demonstrate the use of a nerve agent antidote kit.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Technician –ATD (New)**
ATD CIP Number: **0351090408**
SOC Code(s): **29-2041**

When this program is offered at the college level, the following standards and benchmarks apply:

This certificate program is part of the Emergency Medical Services AS degree program (1351090402). At the completion of this program, the student will be able to:	
01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
	01.01 Define Emergency Medical Services (EMS) systems.
	01.02 Discuss the historical background of the development of the EMS system.
	01.03 Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
	01.04 Discuss the specific statutes and regulations regarding the EMS system in Florida.
	01.05 Discuss vehicle and equipment readiness
	01.06 Characterize the EMS system's role in prevention and public education.
	01.07 Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.
	01.08 Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
	01.09 Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
	01.10 Define quality improvement and discuss the EMT's role in the process.
	01.11 Identify the basics of common methods of payment for healthcare services.
	01.12 Analyze attributes and attitudes of an effective leader.
	01.13 Demonstrate effective techniques for managing team conflict.
	01.14 Describe factors that influence the current delivery system of healthcare.

	01.15 Discuss the importance of continuing medical education and skills retention.
	01.16 Assess personal attitudes and demeanor that may distract from professionalism.
	01.17 Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
	02.01 Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
	02.02 Explain the importance to assess and treat patients based on evidence based decision making.
	02.03 Interpret graphs, charts and tables.
	02.04 Measure time, temperature, distance, capacity, and mass/weight.
	02.05 Convert and use traditional and metric units.
	02.06 Make estimations, approximations and judge the reasonableness of the result.
	02.07 Convert time from a 12 hour format to a 24 hour format
	02.08 Demonstrate ability to evaluate and draw conclusions.
	02.09 Calculate ratios.
	02.10 Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:
	03.01 Explain the need to determine scene safety.

03.02	Discuss the importance of body substance isolation (BSI).
03.03	Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.
03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
03.11	State the guidelines for reaching and their application.
03.12	State the guidelines for pushing and pulling.
03.13	Discuss patient positioning in common emergency situations.
03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.15	Define “infectious disease” and “communicable disease.”
03.16	Describe the routes of transmission for infectious disease.
03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.18	Explain how immunity to infectious diseases is acquired.
03.19	Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
03.20	Describe the components of physical fitness and mental wellbeing.
03.21	Identify personal health practices and environmental factors which affect function of each of the major body systems.
03.22	Develop an awareness of complementary and alternative health practices.
03.23	Explain the basic concepts of positive self-image, wellness and stress.
03.24	Develop a wellness and stress control plan that can be used in personal and professional life.

	03.25 Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture's MyPlate food guide.)
	03.26 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.
	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:

	05.01 Understand the basic principles of the various types of communications equipment used in EMS
	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.
	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.
	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.

07.03	Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
07.04	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.05	Explain the importance, necessity and legality of patient confidentiality.
07.06	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.07	Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
07.08	Differentiate between civil tort and criminal actions
07.09	List the elements of negligence and defenses/protections from liability.
07.10	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.11	Define ethics and morality and discuss their implication for the EMT.
07.12	Differentiate between licensure and certification as they apply to EMS.
07.13	Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
07.16	Describe the appropriate patient management and care techniques in a refusal of care situation.
07.17	Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
07.18	Describe the criteria necessary to honor an advance directive.
07.19	Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
08.01	Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal

	08.01.05 superior 08.01.06 inferior 08.01.07 anterior 08.01.08 posterior 08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
08.02	Chart the life support chain, aerobic metabolism and anaerobic metabolism.
08.03	Define anatomy, physiology, pathophysiology and homeostasis.
08.04	Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
08.05	Explain cellular anatomy and physiology.
08.06	Explain cellular respiration.
08.07	Discuss cell division.
08.08	Describe the different types of muscle tissues including skeletal, smooth and cardiac.
08.09	Describe the functions and divisions of the skeletal system including the classifications of bones.
08.10	Name and identify the location of the bones of the axial and appendicular skeleton.
08.11	Describe the classification and types of joints.
08.12	Describe the function of muscles.
08.13	Identify major muscles of the body

	08.14 Describe the general function of the respiratory system and its structures.
	08.15 Discuss the mechanisms of breathing including: 08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes 08.15.03 Dead space 08.15.04 Lung compliance
	08.16 Explain the diffusion of gases in external and internal respiration.
	08.17 Describe oxygen and carbon dioxide transport in the blood.
	08.18 Describe nervous and chemical mechanisms that regulate Respirations.
	08.19 Discuss respiration and acid-base balance.
	08.20 Describe the composition and function of blood and plasma.
	08.21 Identify and describe the anatomical structures and functions of the cardiovascular system.
	08.22 Discuss the hemodynamics of blood pressure.
	08.23 Discuss the role of nutrition, metabolism and body temperature on body function.
	08.24 Describe the causes, advantages and disadvantages of a fever
	08.25 Discuss the hypothalamus functions as the thermostat in the body
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:
	09.01 Identify medical terminology word parts such as: 09.01.01 root words 09.01.02 prefixes 09.01.03 suffixes 09.01.04 combining forms
	09.02 Correctly utilize medical terminology describing each of the following: 09.02.01 body structures 09.02.02 functions, 09.02.03 conditions and disorders 09.02.04 body regions 09.02.05 cavities 09.02.06 areas 09.02.07 landmarks
	09.03 Correctly use medical abbreviations and symbols.

	09.04 Read and understand basic medical documentation in medical records and medical reports.
	09.05 Communicate with healthcare professionals utilizing basic medical terminology.
	09.06 Explain the rationale for using accepted medical terminology correctly.
10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:
	10.01 Discuss signs of irreversible death.
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:
	12.01 Define public health and explain the goal of the public health field.
	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology

	12.05 Discuss ways of EMS involvement in injury prevention.
	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:
	13.01 Explain the “six rights” of medication administration and describe how each one related to EMS.
	13.02 Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
	13.03 Describe the difference between a generic medication name and trade name, and provide an example of each.
	13.04 Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
	13.05 Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
	14.01 Discuss the difference between administration versus assistance of patient medications.
	14.02 Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
	15.01 State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication 15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions

	15.01.09 Doses of medications
	15.02 Discuss the forms in which the medications may be found.
	15.03 Demonstrate the steps in properly inspecting each type of medication.
16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.

	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.
	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:
	17.01 Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02 Describe the oxygenation process
	17.03 Explain both external and internal respiration process
	17.04 Discuss the various pathophysiologies of the respiratory system.
	17.05 Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06 State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07 Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08 Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10 Demonstrate the correct operation of oxygen tanks and regulators.
	17.11 Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12 Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13 Discuss the differences between negative pressure and positive pressure ventilation.
18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:

	18.01 Demonstrate how to artificially ventilate a patient with a pocket mask.
	18.02 Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03 Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.
	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.
	20.03 Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).

	20.04	Discuss and demonstrate methods of assessing the airway and providing airway care.
	20.05	Describe and demonstrate methods used for assessing if a patient is breathing
	20.06	Differentiate between a patient with adequate and inadequate breathing.
	20.07	Distinguish between methods of assessing breathing for all age groups.
	20.08	Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09	Compare the methods of providing airway care in all age groups.
	20.10	Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11	Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12	Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13	Describe when it is appropriate to expose the patient completely
	20.14	Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:	
	21.01	Determine the chief complaint.
	21.02	Investigate the chief complaint.
	21.03	Describe components of the patient history
	21.04	Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05	Recognize and respond to the feelings patients experience during assessment.
	21.06	Discuss the value of obtaining a family and social history.
	21.07	Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:	
	22.01	Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02	Discuss the components and techniques of the physical exam and skills involved.
	22.03	Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.

	22.04 State the circumstances for performing a rapid assessment.
	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.

	24.05 Explain the rationale of recording additional sets of vital signs.
25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
	25.01 Identify the assessment factors for a patient with a medical complaint including:
	25.01.01 scene safety
	25.01.02 environmental factors
	25.01.03 chief complaint
	25.01.04 non-life threatening conditions
	25.01.05 distracting injuries
	25.01.06 tunnel vision
	25.01.07 patient cooperation
	25.01.08 rescuer attitude
	25.02 Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the nervous system.
	26.02 Describe the pathophysiology of the following neurologic disorders: 26.02.01 Altered Mental Status 26.02.02 Stroke 26.02.03 Transient Ischemic Attack 26.02.04 Headache 26.02.05 Seizures 26.02.06 Syncope
	26.03 Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.
	26.04 Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
	26.05 Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
	26.06 Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.
	26.07 Define “altered mental status” and identify the possible causes

	26.08 Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include: 26.08.01 strokes 26.08.02 headaches 26.08.03 seizures 26.08.04 altered mental status
	26.09 Discuss the transport of the stroke patient to the appropriate treatment center.
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	27.01 Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
	27.02 Describe the pathophysiology of the following abdominal and gastrointestinal disorders: 27.02.01 Abdominal Pain 27.02.02 Acute Abdomen 27.02.03 Peritonitis 27.02.04 Appendicitis 27.02.05 Pancreatitis 27.02.06 Cholecystitis 27.02.07 Gastrointestinal bleeding 27.02.08 Esophageal Varicies 27.02.09 Gastroenteritis 27.02.10 Ulcers 27.02.11 Intestinal Obstruction 27.02.12 Hernia 27.02.13 Abdominal Aortic Aneurysm
	27.03 Define the term," acute abdomen."
	27.04 Identify the signs and symptoms, and common causes of an acute abdomen.
	27.05 Define upper and lower gastrointestinal bleeding.
	27.06 Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.
	27.07 Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.
	27.08 Define acute gastroenteritis.
	27.09 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	27.10 Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology

	disorders/emergencies for all age groups. –The student will be able to:
	28.01 Define and differentiate allergic reaction and anaphylaxis
	28.02 Describe the pathophysiology of the following immunology disorders: 28.02.01 Allergic Reaction 28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
	28.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
	28.04 State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
	28.05 Demonstrate the use of epinephrine auto-injector
	28.06 Review the anatomy and physiology of the organs and structures related to anaphylaxis
	28.07 Describe the incidence, morbidity and mortality of anaphylaxis.
	28.08 Identify the risk factors most predisposing to anaphylaxis.
	28.09 Recognize the signs and symptoms related to anaphylaxis
	28.10 Describe the prevention of anaphylaxis and appropriate patient education.
	28.11 List common antigens most frequently associated with anaphylaxis.
	28.12 Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
	29.01 List the causes of infectious diseases
	29.02 Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus

	29.02.07	Multidrug-Resistant Organisms
29.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.	
29.04	Discuss mandatory notification to State or Federal agencies of various diseases.	
29.05	Identify patients with risk factors for infectious disease.	
29.06	Explain the principles and practices of infection control in prehospital care.	
29.07	Describe and discuss the rationale for the various types of PPE.	
29.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).	
29.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.	
29.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.	
29.11	Demonstrate the ability to comply with body substance isolation guidelines.	
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:	
30.01	Review the anatomy and physiology of the endocrine system and its main function in the body.	
30.02	Describe the pathophysiology of the following endocrine disorders:	
	30.02.01	Insulin Dependent Diabetes Mellitus
	30.02.02	Non-Insulin Dependent Diabetes Mellitus
	30.02.03	Hypoglycemia
	30.02.04	Hyperglycemia
	30.02.05	Diabetic Ketoacidosis(DKA)
	30.02.06	Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
30.03	Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.	
30.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.	
30.05	State the following for oral glucose:	
	30.05.01	Generic and trade names
	30.05.02	Medication forms
	30.05.03	Dose
	30.05.04	Administration
	30.05.05	Action
	30.05.06	Contraindications
30.06	Demonstrate the steps of using a glucometer device and administering oral glucose.	

	30.07 Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
	30.08 Discuss the general assessment findings associated with endocrinologic emergencies.
	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.
	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.

	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.
32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups. –The student will be able to:
	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.

33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.
	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning 33.02.02 Carbon Monoxide Poisoning 33.02.03 Cyanide Poisoning 33.02.04 Exposure to Acid or Alkaline Substances 33.02.05 Exposure to Hydrocarbons 33.02.06 Methanol Ingestion 33.02.07 Isopropanol Ingestion 33.02.08 Ethylene Glycol Ingestion 33.02.09 Exposure to Poisonous Plants 33.02.10 Drug Withdrawal 33.02.11 Alcoholic Syndrome 33.02.12 Withdrawal syndrome (including delirium tremens) 33.02.13 Illicit Drug Use 33.02.14 Medication Overdose
	33.03 List various ways that poisons enter the body.
	33.04 List signs/symptoms associated with poisoning.
	33.05 Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.
	33.06 Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
	33.07 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	34.01 Review the basic anatomy and physiology of the respiratory system.
	34.02 Describe the pathophysiology of the following respiratory disorders: 34.02.01 Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma 34.02.02 Pulmonary Edema 34.02.03 Spontaneous Pneumothorax 34.02.04 Hyperventilation Syndrome 34.02.05 Epiglottitis 34.02.06 Pertussis 34.02.07 Cystic Fibrosis 34.02.08 Pulmonary Embolism 34.02.09 Pneumonia

	34.02.10	Viral Respiratory Infections
	34.02.11	Poisonous Exposures
34.03	List signs of adequate air exchange.	
34.04	State the signs and symptoms of a patient with respiratory distress.	
34.05	Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.	
34.06	State the following for the metered-dose inhaler:	
	34.06.01	generic name
	34.06.02	medication forms
	34.06.03	dose
	34.06.04	administration
	34.06.05	action
	34.06.06	indications
	34.06.07	contraindications
34.07	Describe and demonstrate the steps in facilitating the use of an inhaler.	
34.08	Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.	
34.09	Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.	
34.10	Demonstrate proper use of airway and ventilation devices.	
34.11	Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.	
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:	
35.01	Review the anatomy and physiology of blood.	
35.02	Describe the pathophysiology of the following hematology disorders:	
	35.02.01	Anemia
	35.02.02	Sickle Cell Anemia / Sickle Cell Crisis
	35.02.03	Hemophilia
35.03	State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.	
35.04	Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.	
35.05	Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.	
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:	
	36.01.01	Review the basic anatomy and physiology of the genitourinary and renal systems

	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure
	36.03 Understand the basic principles of kidney dialysis.
	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.

39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
	39.01 Discuss the recognition and management of an epistaxis.
	39.02 Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.
40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
	40.01 Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
	40.02 Discuss and identify causes and pathophysiology of respiratory failure and arrest.
	40.03 Discuss and identify causes and pathophysiology of cardiac failure or arrest.
	40.04 Discuss the various types and degrees of shock.
	40.05 Discuss and identify post resuscitation and management.
	40.06 Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	40.07 Show Provider (AHA guidelines) certification required prior to rescuer program completion.
	40.08 Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
	40.09 Define and differentiate compensated and decompensated hemorrhagic shock.
	40.10 Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
	40.11 Demonstrate how to perform one and two rescuer CPR, adult, child, infant
	40.12 Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
	40.13 Demonstrate the steps of rescuer level appropriate post resuscitative care
	40.14 Management and resuscitation of the critical patient
	40.15 Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
	40.16 Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	41.01 Discuss and define pathophysiology of the trauma patient

	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma. 41.04.01 Define energy, force, laws of motion 41.04.02 Explain the physics of trauma
	41.05 Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to occur and include: 41.05.01 Effects of high, medium and low velocity penetrating trauma 41.05.02 Primary, secondary, tertiary and miscellaneous blast injuries 41.05.03 Factors to consider of a patient injured in a fall. 41.05.04 Consider all age groups
	41.06 Describe the kinematics of penetrating injuries.
	41.07 Discuss the role of documentation in trauma.
	41.08 Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.
	41.09 Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
	41.10 Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)
	41.11 Discuss the National Trauma Triage Protocol of injured Patients
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:
	42.01 Review the anatomy and physiology of the circulatory system
	42.02 Review the different types of bleeding and classes of hemorrhage.
	42.03 List signs and symptoms of shock (hypo-perfusion).
	42.04 Describe the body's physiologic response to bleeding.
	42.05 Review the pathophysiology of hemorrhagic shock.
	42.06 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).
	42.07 Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.
	42.08 Demonstrate how to apply a commercial tourniquet.
	42.09 Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.

43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
	43.02 Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
	43.03 Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion, 43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:

45.01	Review the anatomy and physiology of the musculo-skeletal system.
45.02	and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains 45.02.03 Strains 45.02.04 Pelvic Injury 45.02.05 Amputation
45.03	Describe the different types of orthopedic injuries including: 45.03.01 Fractures 45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard

	45.15.02	Improvised
	45.15.03	Soft
	45.15.04	Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.	
46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:	
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.	
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.	
46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries:	
	46.03.01	wounds
	46.03.02	burns
	46.03.03	high pressure injection
	46.03.04	crush syndrome injuries
	46.03.05	compartment syndrome injuries
	46.03.06	contusion
	46.03.07	hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries:	
	46.04.01	abrasions
	46.04.02	lacerations
	46.04.03	major arterial lacerations
	46.04.04	avulsions,
	46.04.05	bites
	46.04.06	impaled objects
	46.04.07	amputations
	46.04.08	incisions
	46.04.09	crush injuries
	46.04.10	blast injuries
	46.04.11	Penetrations/punctures.
46.05	Identify types of burn injuries, including:	
	46.05.01	thermal burn
	46.05.02	inhalation burn
	46.05.03	chemical burn
	46.05.04	electrical burn
	46.05.05	radiation exposure
46.06	Describe the depth classifications of burn injuries, including:	
	46.06.01	superficial burn
	46.06.02	partial-thickness burn
	46.06.03	full-thickness burn
	46.06.04	Other depth classifications

	46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
	46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.
	46.09	Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents
	46.10	Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11	Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12	Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13	Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:	
	47.01	Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02	Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03	Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04	Recognize and manage life threats due to head, neck and spine trauma.
	47.05	Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06	Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.

48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including: 48.02.01 Increased intracranial pressure (ICP) 48.02.02 Concussion 48.02.03 Contusion
	48.03 Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including: 48.03.01 Brain Trauma 48.03.02 Spinal Cord Trauma 48.03.03 Cervical Spine Trauma
	48.04 Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.
	48.05 Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.
	48.06 Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.
	48.07 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
	48.08 Demonstrate specific management techniques for a patient with a suspected spinal cord injury.
	48.09 Demonstrate various methods for stabilization and removal of a helmet.
	48.10 Demonstrate documentation of assessment before, during and after spinal motion restriction.
	48.11 Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:
	49.01 Review the anatomy and physiology for the following trauma patients: 49.01.01 pregnant 49.01.02 pediatric 49.01.03 geriatric 49.01.04 cognitively impaired
	49.02 Discuss the pathophysiology and MOI of trauma in the following patients: 49.02.01 pregnant 49.02.02 pediatric 49.02.03 geriatric 49.02.04 cognitively impaired
	49.03 Discuss and demonstrate unique assessment and management considerations for the following trauma patients: 49.03.01 pregnant 49.03.02 pediatric

	49.03.03	geriatric
	49.03.04	cognitively impaired
49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.	
50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:	
50.01	Define drowning and discuss its incidence, rick factors and prevention.	
50.02	Discuss the pathophysiology and MOI of the following:	
	50.02.01	Drowning and water related incidents
	50.02.02	temperature-related illness
	50.02.03	bites and envenomation
	50.02.04	dysbarism such as high-altitude edema
	50.02.05	diving injuries
	50.02.06	lightning (electrical) injury
	50.02.07	high altitude illness
50.03	Describes and demonstrate the assessment and management for a patient with the following:	
	50.03.01	Drowning and water related incidents
	50.03.02	temperature-related illness
	50.03.03	bites and envenomation
	50.03.04	dysbarism such as high-altitude edema
	50.03.05	diving injuries
	50.03.06	lightning (electrical) injury
	50.03.07	high altitude illness
50.04	Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.	
50.05	Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.	
50.06	Explain the five ways a body can lose heat	
50.07	Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.	
50.08	Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.	
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:	
51.01	Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.	
51.02	Discuss the golden principle of out-of-hospital trauma care	
51.03	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.04	Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.	

52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:
	52.01 Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy
	52.02 Define the stages of labor and discuss how to assess them
	52.03 Differentiate between normal delivery, abnormal delivery and complications associated with delivery.
	52.04 Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	52.05 State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.06 Describe how to care for the newborn post-delivery.
	52.07 Describe the management of the mother post-delivery.
	52.08 State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.09 Describe the procedures for handling complications of pregnancy
	52.10 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	52.11 Describe special patient care considerations of a premature baby.
	52.12 Demonstrate how to listen to fetal heart tones.
	52.13 Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.14 Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.15 Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:
	53.01 Discuss and demonstrate assessment and management considerations of a neonate.
	53.02 Define the term neonate.
	53.03 Identify the factors that lead to premature birth and low birth weight newborns.
	53.04 Calculate the APGAR score given various newborn situations.
	53.05 Discuss the common signs when ventilator assistance is appropriate for a neonate.
	53.06 Identify and discuss the use of oxygen/airway adjuncts in the neonate

	53.07 Discuss the steps in resuscitation of a neonate
	53.08 Discuss the signs of hypovolemia in a newborn.
	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.
	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.

	54.12	Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13	Describe the common causes, assessment and management of neurological emergencies in infants and children.
	54.14	Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15	Demonstrate proper technique for suctioning of infants and children.
	54.16	Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17	Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18	Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:	
	55.01	Define and discuss the term “geriatrics.”
	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer’s disease and Parkinson’s disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.

56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:
56.01	Define child abuse / neglect
56.02	Define children with special health care needs.
56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
56.05	Discuss the pathophysiology of children with special health care needs including technology
56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
56.07	Discuss the incidence and categories of abuse and assault.
56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.
56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.

	56.21 Define hospice care and comfort care.
	56.22 List the stages of the grief process and relate them to an individual in hospice care.
	56.23 Describe airway maintenance devices typically found in the home care environment.
	56.24 Describe indwelling catheters, implanted central IV ports and central line monitoring.
	56.25 Identify failure of GI/GU devices found in the home care setting.
	56.26 Identify failure of ventilating devices found in the home care setting.
	56.27 Identify failure of vascular access devices found in the home care setting.
	56.28 Demonstrate the ability to assess a spouse, elder or child abused patient.
	56.29 Demonstrate the ability to assess a sexually assaulted patient.
	56.30 Demonstrate the assessment of a patient with a sensory deficit or developmental disability.
	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.

	58.03 Discuss the importance of NIMS (National Incidence Management System).
	58.04 Describe the functional components of the incident management system in terms of the following: 58.04.01 Command 58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning
	58.05 Differentiate between singular and unified command and when each is most applicable.
	58.06 Describe the role of command
	58.07 Describe the need for transfer of command and procedures for transferring it.
	58.08 List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging, 58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications
	58.09 Describe techniques used to allocate patients to hospitals and track them.
	58.10 List the physical and psychological signs of critical incident stress.
	58.11 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:
	59.01 Describe essential elements of scene size-up when arriving at a potential MCI.
	59.02 Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
	59.03 Describe the role of the physician at multiple casualty incidents.
	59.04 Define triage and describe the principles of triage.
	59.05 Describe the START (simple triage and rapid treatment) method of initial triage.

	59.06 Describe techniques used to allocate patients to hospitals and track them.
	59.07 List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control 59.07.03 Burn management 59.07.04 Patient packaging/immobilization
	59.08 List the physical and psychological signs of critical incident stress.
	59.09 Describe the role of critical incident stress management sessions in MCIs.
	59.10 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
	59.11 Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.
	59.12 Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:
	60.01 Discuss safe air medical operations.
	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.
	60.04 Describe the advantages and disadvantages of air medical transport.
	60.05 Identify the conditions/situations in which air medical transport should be considered.
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.
	60.07 Perform setting up an air medical helicopter landing zone.
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication
	61.02 Describe personal and patient safety during vehicle extrication.
	61.03 Explain the difference between simple access and complex access in vehicle extrication
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
	61.05 Discuss the use of simple hand tools used for vehicle extrication

	61.06	Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.
	61.07	List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems 61.07.03 catalytic converters and conventional fuel systems 61.07.04 stored energy 61.07.05 alternate fuel systems
	61.08	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
	61.09	Describe the electrical hazards commonly found at highway incidents (above and below ground).
	61.10	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
	61.11	Explain typical door anatomy and methods to access through stuck doors.
	61.12	Explain SRS or "air bag" systems and methods to neutralize them.
	61.13	Demonstrate the use of wood cribbing to stabilize a vehicle.
	61.14	Demonstrate how to gain access to a patient by using a spring- loaded center punch.
62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:	
	62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following: 62.01.01 poison control center 62.01.02 medical control 62.01.03 material safety data sheets (MSDS), 62.01.04 reference textbooks 62.01.05 computer databases 62.01.06 Computer-Aided Management of Emergency Operations (CAMEO) 62.01.07 CHEMTREC 62.01.08 technical specialists 62.01.09 Agency for toxic substances and disease registry
	62.02	Explain primary and secondary contamination risk.
	62.03	List and describe the following routes of exposure:
		62.03.01 topical
		62.03.02 respiratory
		62.03.03 gastrointestinal

	62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.	
62.05	List and explain the common signs, symptoms and treatment for the following substances:	
	62.05.01	corrosives (acids/alkalis)
	62.05.02	pesticides (carbamates / organophosphates),
	62.05.03	chemical asphyxiants (cyanide/carbon monoxide)
	62.05.04	hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients	
62.07	Determine the appropriate level of PPE by considering the following:	
	62.07.01	Types
	62.07.02	Application
	62.07.03	Use and Limitations
	62.07.04	Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.	
62.09	Demonstrate the donning and doffing of appropriate PPE.	
62.10	Set up and demonstrate an emergency two-step decontamination process.	
62.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials	
62.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material	
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:	
63.01	Describe the role of the EMT on the scene of a natural or man-made disaster	
63.02	Define the different types of terrorism and provide examples of incidents of each.	
63.03	Describe personal and patient safety during a natural or man-made disaster.	
63.04	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.	
63.05	Discuss the National Terrorism Advisory System	
63.06	Discuss factors to consider when responding to a terrorist situation	
63.07	Discuss important actions to take at the scene of a terrorist event such as:	
	63.07.01	scene safety
	63.07.02	personal protection
	63.07.03	notification procedures
	63.07.04	available resources

	63.07.05 working with in the command system
63.08	List the main categories of weapons of mass destruction
63.09	Discuss the different types of chemical agents and their signs and symptoms
63.10	Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
63.11	Define the different types of radiations and their effect on the human body.
63.12	Demonstrate the use of a nerve agent antidote kit.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion

from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 12 credits. When offered at a technical center the standard length of this program is 300 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Technician**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090415
Program Type	College Credit Certificate (CCC)
Program Length	12 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics

Purpose

This certificate program is part of the Emergency Medical Services AS degree program (1351090402).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This is an instructional program that prepares students for employment as emergency medical technicians SOC Code 29-2041(Emergency Medical Technicians and Paramedics) to function at the basic pre-hospital emergency medical technician level and treat various medical/trauma conditions using appropriate equipment and materials. The program prepares students for certification as EMT's in accordance with Chapter 64J of the Florida Administrative Code. The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation (DOT) National EMS Education Standards for EMT. This is the initial level for a career in emergency medical services and the primary prerequisite for paramedic training and certification.

The content includes but is not limited to patient assessment, airway management, cardiac arrest, external and internal bleeding and shock, traumatic injuries, fractures, dislocations, sprains, poisoning, heart attack, stroke, diabetes, acute abdomen, communicable diseases, patients with abnormal behavior, alcohol and drug abuse, the unconscious state, emergency childbirth, burns, environmental hazards, communications, reporting, extrication and transportation of patient. The student must be proficient in patient assessment and evaluation, the use of suctioning

devices, oral and nasal airways, resuscitation devices, oxygen equipment, sphygmomanometer and stethoscope, splints of all types, pneumatic anti-shock garments, extrication tools, dressings and bandages, stretchers and patient carrying devices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Regulated Programs

Florida Statute 401.2701 requires that the instructor-student ratio should not exceed 1:6. Hospital activity shall include a minimum of 20 hours of supervised clinical supervision, including 10 hours in a hospital emergency department. Clinical activity shall include appropriate patient assessment skills, intervention and documentation relevant to each clinical rotation.

Field Internship Activities: Field internship shall include a competency based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include a minimum of 5 emergency runs resulting in patient care and transport appropriate for the EMT. In addition, the patient care components should include minimum competencies in patient assessment, airway management and ventilation, trauma and medical emergencies.
This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Please refer to chapter 401 F.S. for more information on disqualification for the EMT license through the Office of Emergency Medical Services (EMS), Department of Health.

An EMT program must be taught by an instructor meeting the qualifications as set forth in 64J-1.201 FAC.

An American Heart Association or Red Cross certification or equivalent in "professional" BLS is required of all candidates for entrance into an EMT program.

The Student Performance Standards for Emergency Medical Technology-EMT were adapted and condensed from the US Department of Transportation (DOT) National EMS Educational Standards for EMT.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstration of a simple depth and foundational breadth of EMS systems.
02.0 Demonstration of a simple depth, simple breadth of research and evidence-based decision making.
03.0 Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness.
04.0 Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing.
05.0 Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication.
06.0 Demonstration of a simple depth and simple breadth of the principles of therapeutic communication.
07.0 Demonstration of a fundamental depth, foundational breadth of medical legality and ethics.
08.0 Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
09.0 Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms.
10.0 Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation.
11.0 Demonstrate the application of fundamental knowledge of life span development to patient assessment and management.
12.0 Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care.
13.0 Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency.
14.0 Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT.
15.0 Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT.
16.0 Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT.
17.0 Demonstrate a fundamental depth, foundational breadth of respiration.
18.0 Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation.
19.0 Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.**
20.0 Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations.
21.0 Demonstrate a fundamental depth, foundational breadth of the components of history taking.
22.0 Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment.
23.0 Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT.
24.0 Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations.
25.0 Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints.
26.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups.
27.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups.
28.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups.
29.0 Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups.

30.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups.
31.0 Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups.
32.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups.
33.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups.
34.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
35.0 Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups.
36.0 Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups.
37.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups.
39.0 Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups.
40.0 Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure.
41.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
42.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups.
43.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups.
44.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups.
45.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups.
48.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups.
49.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups.
50.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups.
51.0 Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries.
52.0 Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT.

53.0 Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT.
54.0 Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT.
55.0 Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT.
56.0 Demonstrate a simple depth, simple breadth of management of the patient with special challenges.
57.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
58.0 Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system.
59.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
60.0 Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response.
61.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
63.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Technician**
CIP Number: **351090415**
Program Length: **12 credit hours**
SOC Code(s): **29-2041**

This certificate program is part of the Emergency Medical Services AS degree program (1351090402). At the completion of this program, the student will be able to:	
01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
01.01	Define Emergency Medical Services (EMS) systems.
01.02	Discuss the historical background of the development of the EMS system.
01.03	Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
01.04	Discuss the specific statutes and regulations regarding the EMS system in Florida.
01.05	Discuss vehicle and equipment readiness
01.06	Characterize the EMS system's role in prevention and public education.
01.07	Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.
01.08	Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
01.09	Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
01.10	Define quality improvement and discuss the EMT's role in the process.
01.11	Identify the basics of common methods of payment for healthcare services.
01.12	Analyze attributes and attitudes of an effective leader.
01.13	Demonstrate effective techniques for managing team conflict.
01.14	Describe factors that influence the current delivery system of healthcare.
01.15	Discuss the importance of continuing medical education and skills retention.

	01.16 Assess personal attitudes and demeanor that may distract from professionalism.
	01.17 Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
	02.01 Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
	02.02 Explain the importance to assess and treat patients based on evidence based decision making.
	02.03 Interpret graphs, charts and tables.
	02.04 Measure time, temperature, distance, capacity, and mass/weight.
	02.05 Convert and use traditional and metric units.
	02.06 Make estimations, approximations and judge the reasonableness of the result.
	02.07 Convert time from a 12 hour format to a 24 hour format
	02.08 Demonstrate ability to evaluate and draw conclusions.
	02.09 Calculate ratios.
	02.10 Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:
	03.01 Explain the need to determine scene safety.
	03.02 Discuss the importance of body substance isolation (BSI).

03.03	Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.
03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
03.11	State the guidelines for reaching and their application.
03.12	State the guidelines for pushing and pulling.
03.13	Discuss patient positioning in common emergency situations.
03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.15	Define “infectious disease” and “communicable disease.”
03.16	Describe the routes of transmission for infectious disease.
03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.18	Explain how immunity to infectious diseases is acquired.
03.19	Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
03.20	Describe the components of physical fitness and mental wellbeing.
03.21	Identify personal health practices and environmental factors which affect function of each of the major body systems.
03.22	Develop an awareness of complementary and alternative health practices.
03.23	Explain the basic concepts of positive self-image, wellness and stress.
03.24	Develop a wellness and stress control plan that can be used in personal and professional life.
03.25	Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture’s MyPlate food guide.)

	03.26 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.
	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:
	05.01 Understand the basic principles of the various types of communications equipment used in EMS

	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.
	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.
	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.
	07.03 Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.

07.04	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.05	Explain the importance, necessity and legality of patient confidentiality.
07.06	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.07	Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
07.08	Differentiate between civil tort and criminal actions
07.09	List the elements of negligence and defenses/protections from liability.
07.10	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.11	Define ethics and morality and discuss their implication for the EMT.
07.12	Differentiate between licensure and certification as they apply to EMS.
07.13	Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
07.16	Describe the appropriate patient management and care techniques in a refusal of care situation.
07.17	Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
07.18	Describe the criteria necessary to honor an advance directive.
07.19	Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
08.01	Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal 08.01.05 superior 08.01.06 inferior

	08.01.07 anterior 08.01.08 posterior 08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
08.02	Chart the life support chain, aerobic metabolism and anaerobic metabolism.
08.03	Define anatomy, physiology, pathophysiology and homeostasis.
08.04	Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
08.05	Explain cellular anatomy and physiology.
08.06	Explain cellular respiration.
08.07	Discuss cell division.
08.08	Describe the different types of muscle tissues including skeletal, smooth and cardiac.
08.09	Describe the functions and divisions of the skeletal system including the classifications of bones.
08.10	Name and identify the location of the bones of the axial and appendicular skeleton.
08.11	Describe the classification and types of joints.
08.12	Describe the function of muscles.
08.13	Identify major muscles of the body
08.14	Describe the general function of the respiratory system and its structures.
08.15	Discuss the mechanisms of breathing including:

	08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes 08.15.03 Dead space 08.15.04 Lung compliance	
	08.16 Explain the diffusion of gases in external and internal respiration.	
	08.17 Describe oxygen and carbon dioxide transport in the blood.	
	08.18 Describe nervous and chemical mechanisms that regulate Respirations.	
	08.19 Discuss respiration and acid-base balance.	
	08.20 Describe the composition and function of blood and plasma.	
	08.21 Identify and describe the anatomical structures and functions of the cardiovascular system.	
	08.22 Discuss the hemodynamics of blood pressure.	
	08.23 Discuss the role of nutrition, metabolism and body temperature on body function.	
	08.24 Describe the causes, advantages and disadvantages of a fever	
	08.25 Discuss the hypothalamus functions as the thermostat in the body	
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:	
	09.01 Identify medical terminology word parts such as: 09.01.01 root words 09.01.02 prefixes 09.01.03 suffixes 09.01.04 combining forms	
	09.02 Correctly utilize medical terminology describing each of the following: 09.02.01 body structures 09.02.02 functions, 09.02.03 conditions and disorders 09.02.04 body regions 09.02.05 cavities 09.02.06 areas 09.02.07 landmarks	
	09.03 Correctly use medical abbreviations and symbols.	
	09.04 Read and understand basic medical documentation in medical records and medical reports.	

	09.05 Communicate with healthcare professionals utilizing basic medical terminology.
	09.06 Explain the rationale for using accepted medical terminology correctly.
10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:
	10.01 Discuss signs of irreversible death.
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:
	12.01 Define public health and explain the goal of the public health field.
	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology
	12.05 Discuss ways of EMS involvement in injury prevention.

	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:
	13.01 Explain the “six rights” of medication administration and describe how each one related to EMS.
	13.02 Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
	13.03 Describe the difference between a generic medication name and trade name, and provide an example of each.
	13.04 Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
	13.05 Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
	14.01 Discuss the difference between administration versus assistance of patient medications.
	14.02 Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
	15.01 State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication 15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions 15.01.09 Doses of medications

	15.02 Discuss the forms in which the medications may be found.
	15.03 Demonstrate the steps in properly inspecting each type of medication.
16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.
	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.

	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:
	17.01 Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02 Describe the oxygenation process
	17.03 Explain both external and internal respiration process
	17.04 Discuss the various pathophysiologies of the respiratory system.
	17.05 Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06 State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07 Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08 Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10 Demonstrate the correct operation of oxygen tanks and regulators.
	17.11 Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12 Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13 Discuss the differences between negative pressure and positive pressure ventilation.
18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:
	18.01 Demonstrate how to artificially ventilate a patient with a pocket mask.

	18.02 Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03 Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.
	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.
	20.03 Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).
	20.04 Discuss and demonstrate methods of assessing the airway and providing airway care.

	20.05 Describe and demonstrate methods used for assessing if a patient is breathing
	20.06 Differentiate between a patient with adequate and inadequate breathing.
	20.07 Distinguish between methods of assessing breathing for all age groups.
	20.08 Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09 Compare the methods of providing airway care in all age groups.
	20.10 Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11 Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12 Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13 Describe when it is appropriate to expose the patient completely
	20.14 Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:
	21.01 Determine the chief complaint.
	21.02 Investigate the chief complaint.
	21.03 Describe components of the patient history
	21.04 Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05 Recognize and respond to the feelings patients experience during assessment.
	21.06 Discuss the value of obtaining a family and social history.
	21.07 Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:
	22.01 Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02 Discuss the components and techniques of the physical exam and skills involved.
	22.03 Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.
	22.04 State the circumstances for performing a rapid assessment.

	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.
	24.05 Explain the rationale of recording additional sets of vital signs.

25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
25.01	Identify the assessment factors for a patient with a medical complaint including:
25.01.01	scene safety
25.01.02	environmental factors
25.01.03	chief complaint
25.01.04	non-life threatening conditions
25.01.05	distracting injuries
25.01.06	tunnel vision
25.01.07	patient cooperation
25.01.08	rescuer attitude
25.02	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:
26.01	Review the anatomy and physiology of the nervous system.
26.02	Describe the pathophysiology of the following neurologic disorders: 26.02.01 Altered Mental Status 26.02.02 Stroke 26.02.03 Transient Ischemic Attack 26.02.04 Headache 26.02.05 Seizures 26.02.06 Syncope
26.03	Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.
26.04	Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
26.05	Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
26.06	Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.
26.07	Define “altered mental status” and identify the possible causes
26.08	Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include:

	26.08.01	strokes
	26.08.02	headaches
	26.08.03	seizures
	26.08.04	altered mental status
26.09	Discuss the transport of the stroke patient to the appropriate treatment center.	
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:	
27.01	Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.	
27.02	Describe the pathophysiology of the following abdominal and gastrointestinal disorders:	
	27.02.01	Abdominal Pain
	27.02.02	Acute Abdomen
	27.02.03	Peritonitis
	27.02.04	Appendicitis
	27.02.05	Pancreatitis
	27.02.06	Cholecystitis
	27.02.07	Gastrointestinal bleeding
	27.02.08	Esophageal Varicies
	27.02.09	Gastroenteritis
	27.02.10	Ulcers
	27.02.11	Intestinal Obstruction
	27.02.12	Hernia
	27.02.13	Abdominal Aortic Aneurysm
27.03	Define the term," acute abdomen."	
27.04	Identify the signs and symptoms, and common causes of an acute abdomen.	
27.05	Define upper and lower gastrointestinal bleeding.	
27.06	Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.	
27.07	Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.	
27.08	Define acute gastroenteritis.	
27.09	Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.	
27.10	Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.	
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups. –The student will be able to:	
28.01	Define and differentiate allergic reaction and anaphylaxis	

	28.02 Describe the pathophysiology of the following immunology disorders: 28.02.01 Allergic Reaction 28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
	28.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
	28.04 State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
	28.05 Demonstrate the use of epinephrine auto-injector
	28.06 Review the anatomy and physiology of the organs and structures related to anaphylaxis
	28.07 Describe the incidence, morbidity and mortality of anaphylaxis.
	28.08 Identify the risk factors most predisposing to anaphylaxis.
	28.09 Recognize the signs and symptoms related to anaphylaxis
	28.10 Describe the prevention of anaphylaxis and appropriate patient education.
	28.11 List common antigens most frequently associated with anaphylaxis.
	28.12 Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
	29.01 List the causes of infectious diseases
	29.02 Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus 29.02.07 Multidrug-Resistant Organisms
	29.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.

29.04	Discuss mandatory notification to State or Federal agencies of various diseases.
29.05	Identify patients with risk factors for infectious disease.
29.06	Explain the principles and practices of infection control in prehospital care.
29.07	Describe and discuss the rationale for the various types of PPE.
29.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
29.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.
29.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.
29.11	Demonstrate the ability to comply with body substance isolation guidelines.
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:
30.01	Review the anatomy and physiology of the endocrine system and its main function in the body.
30.02	Describe the pathophysiology of the following endocrine disorders: 30.02.01 Insulin Dependent Diabetes Mellitus 30.02.02 Non-Insulin Dependent Diabetes Mellitus 30.02.03 Hypoglycemia 30.02.04 Hyperglycemia 30.02.05 Diabetic Ketoacidosis(DKA) 30.02.06 Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
30.03	Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.
30.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
30.05	State the following for oral glucose: 30.05.01 Generic and trade names 30.05.02 Medication forms 30.05.03 Dose 30.05.04 Administration 30.05.05 Action 30.05.06 Contraindications
30.06	Demonstrate the steps of using a glucometer device and administering oral glucose.
30.07	Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
30.08	Discuss the general assessment findings associated with endocrinologic emergencies.

	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.
	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.
	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.

32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups. –The student will be able to:
	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.
33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.

	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning 33.02.02 Carbon Monoxide Poisoning 33.02.03 Cyanide Poisoning 33.02.04 Exposure to Acid or Alkaline Substances 33.02.05 Exposure to Hydrocarbons 33.02.06 Methanol Ingestion 33.02.07 Isopropanol Ingestion 33.02.08 Ethylene Glycol Ingestion 33.02.09 Exposure to Poisonous Plants 33.02.10 Drug Withdrawal 33.02.11 Alcoholic Syndrome 33.02.12 Withdrawal syndrome (including delirium tremens) 33.02.13 Illicit Drug Use 33.02.14 Medication Overdose
	33.03 List various ways that poisons enter the body.
	33.04 List signs/symptoms associated with poisoning.
	33.05 Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.
	33.06 Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
	33.07 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	34.01 Review the basic anatomy and physiology of the respiratory system.
	34.02 Describe the pathophysiology of the following respiratory disorders: 34.02.01 Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma 34.02.02 Pulmonary Edema 34.02.03 Spontaneous Pneumothorax 34.02.04 Hyperventilation Syndrome 34.02.05 Epiglottitis 34.02.06 Pertussis 34.02.07 Cystic Fibrosis 34.02.08 Pulmonary Embolism 34.02.09 Pneumonia 34.02.10 Viral Respiratory Infections 34.02.11 Poisonous Exposures
	34.03 List signs of adequate air exchange.

	34.04 State the signs and symptoms of a patient with respiratory distress.
	34.05 Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.
	34.06 State the following for the metered-dose inhaler: 34.06.01 generic name 34.06.02 medication forms 34.06.03 dose 34.06.04 administration 34.06.05 action 34.06.06 indications 34.06.07 contraindications
	34.07 Describe and demonstrate the steps in facilitating the use of an inhaler.
	34.08 Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.
	34.09 Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.
	34.10 Demonstrate proper use of airway and ventilation devices.
	34.11 Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:
	35.01 Review the anatomy and physiology of blood.
	35.02 Describe the pathophysiology of the following hematology disorders: 35.02.01 Anemia 35.02.02 Sickle Cell Anemia / Sickle Cell Crisis 35.02.03 Hemophilia
	35.03 State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.
	35.04 Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.
	35.05 Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:
	36.01.01 Review the basic anatomy and physiology of the genitourinary and renal systems
	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure

	36.03 Understand the basic principles of kidney dialysis.
	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.
39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
	39.01 Discuss the recognition and management of an epistaxis.

	39.02 Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.
40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
	40.01 Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
	40.02 Discuss and identify causes and pathophysiology of respiratory failure and arrest.
	40.03 Discuss and identify causes and pathophysiology of cardiac failure or arrest.
	40.04 Discuss the various types and degrees of shock.
	40.05 Discuss and identify post resuscitation and management.
	40.06 Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	40.07 Show Provider (AHA guidelines) certification required prior to rescuer program completion.
	40.08 Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
	40.09 Define and differentiate compensated and decompensated hemorrhagic shock.
	40.10 Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
	40.11 Demonstrate how to perform one and two rescuer CPR, adult, child, infant
	40.12 Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
	40.13 Demonstrate the steps of rescuer level appropriate post resuscitative care
	40.14 Management and resuscitation of the critical patient
	40.15 Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
	40.16 Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	41.01 Discuss and define pathophysiology of the trauma patient
	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma.

	41.04.01	Define energy, force, laws of motion
	41.04.02	Explain the physics of trauma
41.05	Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to occur and include:	
	41.05.01	Effects of high, medium and low velocity penetrating trauma
	41.05.02	Primary, secondary, tertiary and miscellaneous blast injuries
	41.05.03	Factors to consider of a patient injured in a fall.
	41.05.04	Consider all age groups
41.06	Describe the kinematics of penetrating injuries.	
41.07	Discuss the role of documentation in trauma.	
41.08	Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.	
41.09	Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.	
41.10	Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)	
41.11	Discuss the National Trauma Triage Protocol of injured Patients	
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:	
42.01	Review the anatomy and physiology of the circulatory system	
42.02	Review the different types of bleeding and classes of hemorrhage.	
42.03	List signs and symptoms of shock (hypo-perfusion).	
42.04	Describe the body's physiologic response to bleeding.	
42.05	Review the pathophysiology of hemorrhagic shock.	
42.06	Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).	
42.07	Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.	
42.08	Demonstrate how to apply a commercial tourniquet.	
42.09	Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.	
43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:	
43.01	Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.	

	43.02 Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
	43.03 Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion, 43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	45.01 Review the anatomy and physiology of the musculo-skeletal system.
	45.02 and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains

	45.02.03 Strains 45.02.04 Pelvic Injury 45.02.05 Amputation
45.03	Describe the different types of orthopedic injuries including: 45.03.01 Fractures 45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard 45.15.02 Improvised 45.15.03 Soft 45.15.04 Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.

46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.
46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries: 46.03.01 wounds 46.03.02 burns 46.03.03 high pressure injection 46.03.04 crush syndrome injuries 46.03.05 compartment syndrome injuries 46.03.06 contusion 46.03.07 hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries: 46.04.01 abrasions 46.04.02 lacerations 46.04.03 major arterial lacerations 46.04.04 avulsions, 46.04.05 bites 46.04.06 impaled objects 46.04.07 amputations 46.04.08 incisions 46.04.09 crush injuries 46.04.10 blast injuries 46.04.11 Penetrations/punctures.
46.05	Identify types of burn injuries, including: 46.05.01 thermal burn 46.05.02 inhalation burn 46.05.03 chemical burn 46.05.04 electrical burn 46.05.05 radiation exposure
46.06	Describe the depth classifications of burn injuries, including: 46.06.01 superficial burn 46.06.02 partial-thickness burn 46.06.03 full-thickness burn 46.06.04 Other depth classifications
46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.

	46.09 Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents
	46.10 Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11 Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12 Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13 Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:
	47.01 Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02 Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03 Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04 Recognize and manage life threats due to head, neck and spine trauma.
	47.05 Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06 Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.
48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including:

	48.02.01	Increased intracranial pressure (ICP)
	48.02.02	Concussion
	48.02.03	Contusion
48.03	Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including:	
	48.03.01	Brain Trauma
	48.03.02	Spinal Cord Trauma
	48.03.03	Cervical Spine Trauma
48.04	Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.	
48.05	Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.	
48.06	Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.	
48.07	Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.	
48.08	Demonstrate specific management techniques for a patient with a suspected spinal cord injury.	
48.09	Demonstrate various methods for stabilization and removal of a helmet.	
48.10	Demonstrate documentation of assessment before, during and after spinal motion restriction.	
48.11	Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.	
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:	
49.01	Review the anatomy and physiology for the following trauma patients:	
	49.01.01	pregnant
	49.01.02	pediatric
	49.01.03	geriatric
	49.01.04	cognitively impaired
49.02	Discuss the pathophysiology and MOI of trauma in the following patients:	
	49.02.01	pregnant
	49.02.02	pediatric
	49.02.03	geriatric
	49.02.04	cognitively impaired
49.03	Discuss and demonstrate unique assessment and management considerations for the following trauma patients:	
	49.03.01	pregnant
	49.03.02	pediatric
	49.03.03	geriatric
	49.03.04	cognitively impaired
49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.	

50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:
	50.01 Define drowning and discuss its incidence, rick factors and prevention.
	50.02 Discuss the pathophysiology and MOI of the following: 50.02.01 Drowning and water related incidents 50.02.02 temperature-related illness 50.02.03 bites and envenomation 50.02.04 dysbarism such as high-altitude edema 50.02.05 diving injuries 50.02.06 lightning (electrical) injury 50.02.07 high altitude illness
	50.03 Describes and demonstrate the assessment and management for a patient with the following: 50.03.01 Drowning and water related incidents 50.03.02 temperature-related illness 50.03.03 bites and envenomation 50.03.04 dysbarism such as high-altitude edema 50.03.05 diving injuries 50.03.06 lightning (electrical) injury 50.03.07 high altitude illness
	50.04 Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.
	50.05 Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.
	50.06 Explain the five ways a body can lose heat
	50.07 Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.
	50.08 Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:
	51.01 Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.
	51.02 Discuss the golden principle of out-of-hospital trauma care
	51.03 Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.
	51.04 Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.
52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:
	52.01 Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy

	52.02	Define the stages of labor and discuss how to assess them
	52.03	Differentiate between normal delivery, abnormal delivery and complications associated with delivery.
	52.04	Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	52.05	State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.06	Describe how to care for the newborn post-delivery.
	52.07	Describe the management of the mother post-delivery.
	52.08	State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.09	Describe the procedures for handling complications of pregnancy
	52.10	Describe special considerations when meconium is present in amniotic fluid or during delivery.
	52.11	Describe special patient care considerations of a premature baby.
	52.12	Demonstrate how to listen to fetal heart tones.
	52.13	Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.14	Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.15	Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:	
	53.01	Discuss and demonstrate assessment and management considerations of a neonate.
	53.02	Define the term neonate.
	53.03	Identify the factors that lead to premature birth and low birth weight newborns.
	53.04	Calculate the APGAR score given various newborn situations.
	53.05	Discuss the common signs when ventilator assistance is appropriate for a neonate.
	53.06	Identify and discuss the use of oxygen/airway adjuncts in the neonate
	53.07	Discuss the steps in resuscitation of a neonate
	53.08	Discuss the signs of hypovolemia in a newborn.

	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.
	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.
	54.12 Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13 Describe the common causes, assessment and management of neurological emergencies in infants and children.

	54.14	Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15	Demonstrate proper technique for suctioning of infants and children.
	54.16	Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17	Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18	Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:	
	55.01	Define and discuss the term “geriatrics.”
	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer’s disease and Parkinson’s disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.
56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:	
	56.01	Define child abuse / neglect

56.02	Define children with special health care needs.
56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
56.05	Discuss the pathophysiology of children with special health care needs including technology
56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
56.07	Discuss the incidence and categories of abuse and assault.
56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.
56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.
56.21	Define hospice care and comfort care.
56.22	List the stages of the grief process and relate them to an individual in hospice care.

	56.23 Describe airway maintenance devices typically found in the home care environment.
	56.24 Describe indwelling catheters, implanted central IV ports and central line monitoring.
	56.25 Identify failure of GI/GU devices found in the home care setting.
	56.26 Identify failure of ventilating devices found in the home care setting.
	56.27 Identify failure of vascular access devices found in the home care setting.
	56.28 Demonstrate the ability to assess a spouse, elder or child abused patient.
	56.29 Demonstrate the ability to assess a sexually assaulted patient.
	56.30 Demonstrate the assessment of a patient with a sensory deficit or developmental disability.
	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.
	58.03 Discuss the importance of NIMS (National Incidence Management System).
	58.04 Describe the functional components of the incident management system in terms of the following: 58.04.01 Command

	58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning	
	58.05 Differentiate between singular and unified command and when each is most applicable.	
	58.06 Describe the role of command	
	58.07 Describe the need for transfer of command and procedures for transferring it.	
	58.08 List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging, 58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications	
	58.09 Describe techniques used to allocate patients to hospitals and track them.	
	58.10 List the physical and psychological signs of critical incident stress.	
	58.11 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.	
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:	
	59.01 Describe essential elements of scene size-up when arriving at a potential MCI.	
	59.02 Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.	
	59.03 Describe the role of the physician at multiple casualty incidents.	
	59.04 Define triage and describe the principles of triage.	
	59.05 Describe the START (simple triage and rapid treatment) method of initial triage.	
	59.06 Describe techniques used to allocate patients to hospitals and track them.	
	59.07 List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control	

	59.07.03 Burn management 59.07.04 Patient packaging/immobilization	
	59.08 List the physical and psychological signs of critical incident stress.	
	59.09 Describe the role of critical incident stress management sessions in MCIs.	
	59.10 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.	
	59.11 Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.	
	59.12 Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.	
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:	
	60.01 Discuss safe air medical operations.	
	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.	
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.	
	60.04 Describe the advantages and disadvantages of air medical transport.	
	60.05 Identify the conditions/situations in which air medical transport should be considered.	
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.	
	60.07 Perform setting up an air medical helicopter landing zone.	
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:	
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication	
	61.02 Describe personal and patient safety during vehicle extrication.	
	61.03 Explain the difference between simple access and complex access in vehicle extrication	
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.	
	61.05 Discuss the use of simple hand tools used for vehicle extrication	
	61.06 Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.	
	61.07 List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems	

	61.07.03	catalytic converters and conventional fuel systems
	61.07.04	stored energy
	61.07.05	alternate fuel systems
61.08	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.	
61.09	Describe the electrical hazards commonly found at highway incidents (above and below ground).	
61.10	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.	
61.11	Explain typical door anatomy and methods to access through stuck doors.	
61.12	Explain SRS or "air bag" systems and methods to neutralize them.	
61.13	Demonstrate the use of wood cribbing to stabilize a vehicle.	
61.14	Demonstrate how to gain access to a patient by using a spring- loaded center punch.	
62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:	
62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following:	
	62.01.01	poison control center
	62.01.02	medical control
	62.01.03	material safety data sheets (MSDS),
	62.01.04	reference textbooks
	62.01.05	computer databases
	62.01.06	Computer-Aided Management of Emergency Operations (CAMEO)
	62.01.07	CHEMTREC
	62.01.08	technical specialists
	62.01.09	Agency for toxic substances and disease registry
62.02	Explain primary and secondary contamination risk.	
62.03	List and describe the following routes of exposure:	
	62.03.01	topical
	62.03.02	respiratory
	62.03.03	gastrointestinal
	62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.	
62.05	List and explain the common signs, symptoms and treatment for the following substances:	
	62.05.01	corrosives (acids/alkalis)

	62.05.02	pesticides (carbamates / organophosphates),
	62.05.03	chemical asphyxiants (cyanide/carbon monoxide)
	62.05.04	hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients	
62.07	Determine the appropriate level of PPE by considering the following:	
	62.07.01	Types
	62.07.02	Application
	62.07.03	Use and Limitations
	62.07.04	Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.	
62.09	Demonstrate the donning and doffing of appropriate PPE.	
62.10	Set up and demonstrate an emergency two-step decontamination process.	
62.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials	
62.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material	
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:	
63.01	Describe the role of the EMT on the scene of a natural or man-made disaster	
63.02	Define the different types of terrorism and provide examples of incidents of each.	
63.03	Describe personal and patient safety during a natural or man-made disaster.	
63.04	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.	
63.05	Discuss the National Terrorism Advisory System	
63.06	Discuss factors to consider when responding to a terrorist situation	
63.07	Discuss important actions to take at the scene of a terrorist event such as:	
	63.07.01	scene safety
	63.07.02	personal protection
	63.07.03	notification procedures
	63.07.04	available resources
	63.07.05	working with in the command system
63.08	List the main categories of weapons of mass destruction	
63.09	Discuss the different types of chemical agents and their signs and symptoms	

63.10	Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
63.11	Define the different types of radiations and their effect on the human body.
63.12	Demonstrate the use of a nerve agent antidote kit.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The standard length of this program is 300 clock hours or 12 credit hours.

Once the students have successfully completed the EMT Program, they may be given a certificate stating that they have met all Emergency Medical Responder requirements.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Nuclear Medicine Technology Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090503
Program Type	College Credit Certificate (CCC)
Program Length	48 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2033 Nuclear Medicine Technologists

Purpose

This certificate program is part of the Nuclear Medicine Technology AS degree program (1351090502).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as radiologic technologists, nuclear medicine or nuclear medicine technologists SOC Code 29-2033 (Nuclear Medicine Technologists) or provide supplemental training for persons previously or presently employed in these occupations.

The content includes but is not limited to the utilization of radioactive materials for diagnostic and therapeutic procedures, patient care, administrative functions, health and safety including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Regulated Programs

The program must be accredited by the:

Joint Review Committee on Educational Programs in
Nuclear Medicine Technology (JRCNMT)
2000 W. Danforth Rd., Ste 130 #203
Edmond OK 73003
Tel: (405) 285-0546
Fax: (405) 285-0579

Or
Southern Association of Colleges and Schools (SACS)
2520 Northwinds Parkway
Suite 600
Alpharetta, GA 30009
888-41ED NOW (888-413-3669)

The program must also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible to be licensed in Florida as a Certified Radiologic Technologist - Nuclear Medicine (i.e., a Nuclear Medicine Technologist). As specified in Chapter 468, Part IV and 64E-FAC. All accredited NMT programs which are recognized and accepted by either the American Registry of Radiologic Technologists (ARRT), or the Nuclear Medicine Technology Certification Board (NMTCB), are approved by the Department of Health.

Program completers will be eligible to apply to the Department of Health for the required state Nuclear Medicine Technologist license. For further information contact:

Department of Health
MQA Radiologic Technology Program
4052 Bald Cypress Way, Bin #C85
Tallahassee, FL 32399
Phone: (850) 245-4910
Fax: (850) 921-6365

Program completers will be eligible to make an application to take one or both of the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612) 687-0048

Or

Nuclear Medicine Technology Certification Board (NMTCB)
3558 Habersham at Northlake
Building I
Tucker, GA 30084
Toll Free: (800) 659-3953

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice radiation safety.
13.0 Practice basic radiopharmacy.
14.0 Calculate doses and administer radiopharmaceuticals and interventional pharmaceuticals.
15.0 Perform "in vitro"/"in vivo" nonimaging procedures.
16.0 Perform imaging procedures.
17.0 Practice quality control.

Florida Department of Education
Student Performance Standards

Program Title: **Nuclear Medicine Technology Specialist**
CIP Number: **0351090503**
Program Length: **48 credit hours**
SOC Code(s): **29-2033**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Nuclear Medicine Technology AS degree program (1351090502). At the completion of this program, the student will be able to:	
Nuclear Medicine Technology: (12-17)	
12.0	Practice radiation safety–The student will be able to:
12.01	Assure compliance with local, state and federal regulations.
12.02	Follow appropriate protection procedures for patients, coworkers and public.
12.03	Follow approved procedures for identifying and labeling radioactive material and radiopharmaceutical doses.
12.04	Perform area surveys and wipe tests.
12.05	Appropriately dispose of radioactive waste.
12.06	Practice personnel monitoring of radiation exposure.
12.07	Perform decontamination procedures.
12.08	Implement appropriate The Joint Commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.
13.0	Practice basic radiopharmacy–The student will be able to:

	13.01 Maintain radiopharmaceutical laboratory records and materials.
	13.02 Observe generatoreluate in practice lab, clinical sites or radiopharmacy.
	13.03 Prepare radiopharmaceuticals and perform quality control tests in practice lab only or observation in clinical sites
	13.04 Demonstrate understanding of ordering radiopharmaceuticals in appropriate dosage and effective time frame.
14.0	Calculate doses and administer radiopharmaceutical and interventional pharmaceuticals–The student will be able to:
	14.01 Perform dose calibrator quality control tests.
	14.02 Calculate the activity and volume of dose.
	14.03 Assay radiopharmaceuticals.
	14.04 Properly administer dose using appropriate route.
	14.05 Properly calculate, prepare, and administer interventional pharmaceuticals.
	14.06 Perform venipuncture accurately and efficiently.
	14.07 Participate in the tagging of blood cells.
	14.08 Maintain records of administrations/preparations.
	14.09 Strictly observe precautions and contraindications of medications and radiopharmaceuticals.
	14.10 Evaluate patients' history and needs and care for them accordingly.
	14.11 Appropriately support treatment for adverse effects.
	14.12 Document accordingly following the facility protocol.
15.0	Perform "in vitro"/"in vivo" nonimaging procedures–The student will be able to:
	15.01 Operate conventional laboratory equipment.
	15.02 Simulate the preparation of doses and standards in the practice lab.
	15.03 Accurately and efficiently simulate the collection of specimens in the practice lab.
	15.04 Operate radiation detection equipment.
	15.05 Simulate the performance of radioassays and calcuations.in the practice lab.

16.0	Perform imaging procedures–The student will be able to:
16.01	Verify order, history and protocol for patient prior to proceeding.
16.02	Verify identity of patient and educate them on procedure.
16.03	Prepare patient as needed for procedure.
16.04	Select proper acquisition parameters to obtain planar, SPECT/CT, and PET/CT images.
16.05	Appropriately perform planar, SPECT/CT, and PET/CT data processing using reconstruction techniques.
16.06	Properly prepare images to be sent to physician according to facility protocol.
16.07	Perform PACS procedures according to facility protocol.
16.08	Maintain appropriate records.
17.0	Practice quality control–The student will be able to:
17.01	Perform scheduled quality control testing of laboratory and imaging equipment.
17.02	Operate scintillation counters.
17.03	Operate and perform daily quality control on gas-filled detectors.
17.04	Maintain a quality assurance program according to agencies such as Florida Bureau of Radiation Control, JRCNMT, NRC, ACR and OSHA.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The nuclear medicine technologist performs patient care with understanding of patient's special needs, fears and concerns and recognizes changes in patient condition. Limiting the exposure of the patient and other health care workers to minimal levels of radiation is of paramount importance.

A fundamental knowledge and understanding of the physical and biological sciences, including radiation biology and protection, as well as radiopharmaceuticals "in vivo" and "Invitro" is essential: nuclear physics, biochemistry, immunology, physiology and an introduction to computer applications/operations with data manipulation must be included.

The designation of PSV-C requires that the student have an associate degree in a related field of study (i.e., radiologic technology, etc.). Upon the successful completion of the program the student will receive a Nuclear Medicine Specialist Certificate.

Students are encouraged to become members of their appropriate professional organizations such as the Society of Nuclear Medicine – Technologist Section (SNM-TS), Florida Nuclear Medicine Technologists, Inc. (FNMT), the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its' local affiliate.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

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Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Radiation Therapy Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090703
Program Type	College Credit Certificate (CCC)
Program Length	43 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-1124 Radiation Therapists

Purpose

This certificate program is part of the Radiation Therapy AS degree program (1351090701).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as radiation therapy technologist SOC Code 29-1124 (Radiation Therapists), or to provide supplemental training for persons previously or presently employed in these occupations.

The content includes but is not limited to administer the prescribed radiation therapy treatments of the highest caliber, thereby providing the patient treatments of the highest quality and accuracy; to become members of the health care team that contributes to the physical and psychological comfort of the patient, to provide radiation protection to the patient, self and health care team; to work with the health care team to improve radiotherapeutic health care in the hospital and community; and to understand the importance of maintaining membership in the professional organizations and keeping abreast of the changes in the field of radiation therapy.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Regulated Programs

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program must be accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 900, Chicago, Illinois 60606-2901, (312) 704-5300, or by the Southern Association of Colleges and Schools to enable graduates to become candidates for examination in Radiation Therapy Technology by the American Registry of Radiologic Technologists. It may also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible for licensure in Florida as a certified Radiation Therapy Technologists. As specified in Chapter 468 Part IV F.S. and 64E-3 F.A.C.

The designation of PSV-C requires that the student have an associate degree in a related field of study (i.e. radiologic technology, etc.). Upon the successful completion of the program the student will receive a Radiation Therapy Specialist Certificate.

Program completers will be eligible to make application to take the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120
(612) 687-0048

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate the proficiency in the skills and knowledge required of clinical practice.
02.0 Convey an understanding of the ethics that impact radiation therapy at both the state and federal levels.
03.0 Demonstrate proficiency in imaging and processing in radiation oncology.
04.0 Demonstrate a basic understanding of laws related to radiation therapy at both the state and federal levels.
05.0 Demonstrate a functional knowledge of medical terminology required in radiation therapy.
06.0 Demonstrate knowledge of procedures and techniques related to the resolution of operational issues in radiation therapy.
07.0 Demonstrate knowledge of the foundational principles and practices of radiation therapy.
08.0 Demonstrate knowledge of essential concepts related to pathophysiology.
09.0 Demonstrate knowledge of the fundamental principles of radiation therapy.
10.0 Demonstrate knowledge of the principles of radiation therapy as it relates to the management of neoplastic disease.
11.0 Demonstrate the skills, procedures and knowledge required for effective quality management.
12.0 Demonstrate an understanding of the integral aspects of radiation biology required of a radiation therapist.
13.0 Demonstrate proficient knowledge of physics pertinent to the understanding of radiations used in the clinical setting.
14.0 Demonstrate the principles of radiation protection and safety for the radiation therapist.
15.0 Demonstrate knowledge of the foundational concepts and competencies in assessment and evaluation of the patient for service delivery.
16.0 Demonstrate an advanced understanding of the concepts and theories of radiation therapy physics.
17.0 Demonstrate proficiency in research methods and information literacy.
18.0 Demonstrate the skills, techniques and knowledge required for medical imaging methods to capture sectional anatomy.
19.0 Demonstrate the skills, techniques and knowledge required for the clinical planning of patient treatment.

Florida Department of Education
Student Performance Standards

Program Title: **Radiation Therapy Specialist**
CIP Number: **0351090703**
Program Length: **43 credit hours**
SOC Code(s): **29-1124**

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This certificate program is part of the Radiation Therapy AS degree program (1351090701). At the completion of this program, the student will be able to:	
01.0	Demonstrate the proficiency in the skills and knowledge required of clinical practice.- The student will be able to:
01.01	Operate within the radiation therapy scope of practice.
01.02	Demonstrate values and attitudes congruent with the profession's standards and ethics.
01.03	Formulate priorities in daily clinical practice.
01.04	Apply concepts of teamwork.
01.05	Adapt to dynamic clinical situations.
01.06	Establish patient-centered, clinically effective service delivery strategies.
01.07	Deliver a prescribed course of treatment adhering to acceptable departmental, institutional, governmental and professional standards.
01.08	Assess the patient's status and condition in order to deliver a prescribed course of radiation therapy.
01.09	Use critical thinking for accurate treatment delivery.
01.10	Demonstrate the principles of radiation protection.
01.11	Monitor tumor lethal dose and normal tissue tolerance dose.
01.12	Evaluate the clinical significance of the treatment parameters as prescribed to suspend the treatment process.
01.13	Apply the principles of total quality management.

01.14	Detect equipment malfunctions and take appropriate action.
01.15	Construct and prepare immobilization, beam alignment and beam modification devices.
01.16	Design, evaluate and implement treatment plans.
01.17	Validate manual and computer dosimetric calculations.
01.18	Perform simulation, localization and therapeutic procedures as they pertain to radiation therapy in accordance with national patient safety standards.
01.19	Demonstrate appropriate and effective communication.
01.20	Demonstrate safe, ethical and legal practices.
01.21	Evaluate the clinical significance of the patient's uniqueness to formulate appropriate actions.
01.22	Apply appropriate safety, transfer and immobilization principles.
01.23	Apply concepts of teaching and learning theories in design, implementation and evaluation in the education of patient, family, colleagues and the community.
01.24	Describe programs designed to promote and maintain health and wellness to meet patient needs.
01.25	Demonstrate appropriate interaction with patients and patients' family and friends.
01.26	Assess patient side effects and complications to create an interdisciplinary management strategy that fosters prevention, healing and comfort.
01.27	Document all aspects of patient care and management in the appropriate record.
01.28	Document and communicate errors and discrepancies in accordance with institutional and national quality management procedures.
01.29	Initiate life support procedures as necessary.
01.30	Document knowledge of the institution's procedures in response to emergencies, disasters and accidents.
01.31	Apply strategies that ensure professional development at a level of clinical practice consistent with acceptable standards.
01.32	Demonstrate quality assurance procedures for all treatment delivery equipment and accessories.
01.33	Evaluate outcomes to continuously improve radiation therapy services.
01.34	Incorporate Health Insurance Portability and Accountability Act (HIPAA) requirements into clinical practice.
01.35	Interpret treatment plan prior to treatment.
02.0	Convey an understanding of the ethics that impact radiation therapy at both the state and federal levels. -The student will be able to:

	02.01	Identify theories and principles that guide ethical decision making for practice situations.
	02.02	Define practice situations that carry high potential for dilemmas that require ethical scrutiny.
	02.03	Discuss basic ethical duties of health care providers.
	02.04	Demonstrate an awareness of and sensitivity to various cultural and ethnic differences among various client groups.
	02.05	Discuss the concept of patient advocacy in support of patients' rights.
	02.06	Discuss ethical theories and models.
	02.07	Discuss the radiation therapy scope of practice, code of ethics and practice standards.
	02.08	Examine concepts of personal honesty, integrity, accountability and professional compassion as ethical imperatives in professional practice.
	02.09	Differentiate between distributive, compensatory and retributive justice.
	02.10	Differentiate between provider and patient relationships.
	02.11	Discuss the duty of the radiation therapist to take responsibility for actions and decisions.
	02.12	Discuss the elements of an informed consent.
	02.13	Discuss standards of disclosure.
	02.14	Analyze issues related to the use and flow of patient information to determine confidentiality.
	02.15	Explain ethical issues related to different age groups.
	02.16	Identify current ethical issues in health care.
	02.17	Demonstrate application of a system of examination, clarification, determination, the doctrine of informed consent and other issues related to patient rights.
	02.18	Explain ethical issues related to the profession.
	02.19	Discuss the relationship between ethics and health care policy.
	02.20	Examine ethical issues arising daily in a radiation therapy department.
03.0	Demonstrate proficiency in imaging and processing in radiation oncology. -The student will be able to:	
	03.01	Define terminology associated with digital imaging systems.
	03.02	Describe the various types of digital receptors.

03.03	Discuss the fundamentals of digital imaging.
03.04	Discuss image acquisition.
03.05	Describe the evaluative criteria for digital imaging detectors.
03.06	Describe the histogram and the process or histogram analysis as it relates to automatic rescaling and determining an exposure indicator.
03.07	Identify the exposure indices for digital imaging receptors.
03.08	Discuss the response of digital imaging systems to background and scatter radiation.
03.09	Use appropriate means of scatter control.
03.10	Explain methods to avoid histogram analysis errors.
03.11	Describe image processing employed for digital images.
03.12	Associate the impact of image processing parameters to the image appearance.
03.13	Associate the effects of inappropriate processing on image clarity or conspicuity.
03.14	Describe and apply the fundamental physical principles of exposure for digital detectors.
03.15	Describe the selection of technical factors to ensure appropriate receptor exposure levels for digital detectors.
03.16	Describe the conditions that cause quantum mottle in a digital image.
03.17	Explain methods to avoid poor quality images.
03.18	Examine the potential impact of digital imaging systems on patient exposure and methods of practicing the as low as reasonably achievable (ALARA) concept with digital systems.
03.19	Describe picture archiving and communications system (PACS) and its function.
03.20	Identify components of a PACS system.
03.21	Describe patient benefits gained through the use of telemedicine.
03.22	Identify modality types that may be incorporated into a PACS.
03.23	Define digital imaging and communications in medicine (DICOM).
03.24	Describe data flow for a DICOM image from an imaging modality to a PACS.
03.25	Describe HIPAA concerns with electronic information.

03.26	Identify common problems associated with retrieving/viewing images.	
03.27	Describe the components and the operation of a conventional simulator.	
03.28	Analyze relationships of factors affecting image contrast, density and resolution to determine optimal image quality.	
03.29	Apply techniques to enhance image details and reduce image distortion.	
03.30	Determine artifact types, cause and preventive measures.	
03.31	Explain the basic principles of image formation for each of the following modalities: magnetic resonance (MR), ultrasound imaging and nuclear medicine.	
03.32	Describe and explain functions of the components of the computed tomography (CT) imaging system.	
03.33	Differentiate between conventional and spiral/helical CT scanning.	
03.34	List the CT computer data processing steps.	
03.35	Name the functions of the array processor used for image reconstruction.	
03.36	Explain the difference between reconstructing and reformatting an image	
03.37	Describe the application of the following terms to CT:	
	03.37.01	Pixel.
	03.37.02	Matrix.
	03.37.03	Voxel.
	03.37.04	Linear attenuation coefficient.
	03.37.05	CT/Hounsfield number.
	03.37.06	Partial volume averaging.
	03.37.07	Window width (ww) and window level (wl).
	03.37.08	Spatial resolution.
	03.37.09	Contrast resolution.
	03.37.10	Noise.
	03.37.11	Annotation.

	03.37.12	Region of interest (ROI).
	03.37.13	Standard vs. volumetric data acquisition.
03.38	Identify the types and appearance of artifacts most commonly affecting CT images.	
03.39	Explain how artifacts can be reduced or eliminated.	
03.40	Describe current data storage techniques used in CT.	
03.41	Name the radiation protection devices that can be used to reduce patient dose in CT and describe the correct application of each.	
04.0	Demonstrate a basic understanding of laws related to radiation therapy at both the state and federal levels. -The student will be able to:	
04.01	Apply concepts related to social, political, economic and historical issues to analyze the different sources of law.	
04.02	List the steps in a civil legal procedure and identify the potential role of a radiation therapist.	
04.03	Assess the role of effective communication skills in reducing legal action.	
04.04	Analyze negligence related to clinical practice issues of simulation, treatment delivery, patient assessment, patient education and quality assurance to determine if negligence is present.	
04.05	Examine the role of the radiation therapist in the informed consent process, patient rights and practice standards.	
04.06	Analyze safety programs to reduce patient injury.	
04.07	Examine the importance of documentation and maintenance of clinical practice records.	
04.08	Formulate a risk management program.	
04.09	Analyze the role of code of ethics, radiation therapy scope of practice and radiation therapy practice standards as guides to assess the appropriateness of professional actions.	
04.10	Discuss the practice of lifelong learning in maintaining professional competence	
05.0	Demonstrate a functional knowledge of medical terminology required in radiation therapy. -The student will be able to:	
05.01	Identify primary language sources from which medical terms are derived.	
05.02	Define medical terms according to basic elements.	
05.03	Interpret language, abbreviations and symbols in the medical record.	
06.0	Demonstrate knowledge of procedures and techniques related to the resolution of operational issues in radiation therapy. -The student will be able to:	
06.01	Identify CQI opportunities.	

	06.02 Explain the differences between CQI and QA.
	06.03 Select appropriate CQI tools for specific situations.
	06.04 Apply CQI principles to specific situations.
	06.05 Discuss human resources' role in the work environment.
	06.06 Discuss the need for organizational and departmental accreditation.
	06.07 Recognize accreditation effects on radiation therapy operations.
	06.08 Use appropriate current procedural terminology (CPT) codes for professional and technical charges.
	06.09 Summarize the various types of insurance and the mechanisms necessary for approval of care.
	06.10 Discuss reimbursement for radiation therapy services.
	06.11 Compare the components and methods of developing and managing a departmental budget.
07.0	Demonstrate knowledge of the foundational principles and practices of radiation therapy. -The student will be able to:
	07.01 Discuss the policies and procedures of the educational program.
	07.02 Discuss the policies and procedures of clinical education settings.
	07.03 Identify the responsibilities of a radiation therapy student.
	07.04 Use library/Internet resources pertinent to radiation oncology.
	07.05 Discuss maintaining patient and student confidentiality.
	07.06 Analyze the importance of multidisciplinary care of cancer patients.
	07.07 Discuss the philosophy and mission of health care delivery systems and educational programs.
	07.08 Incorporate key terms used in the principles and practice of radiation therapy.
	07.09 Identify the contents/sections of the patient's records.
	07.10 Explain radiation safety procedures for radiation therapy.
	07.11 Explain health safety procedures for personnel and patients.
	07.12 Differentiate between accreditation, credentialing, certification, registration, licensure and regulations.

	07.13	Explain the purposes, functions and activities of international, national, state and local professional organizations.
	07.14	Discuss the importance of professional and community commitment.
	07.15	Discuss the radiation therapist scope of practice, practice standards and professional code of ethics.
	07.16	Discuss the benefits of continuing education as related to improving the quality of patient care, professional development and personal enhancement.
	07.17	Discuss career advancement and opportunities for the radiation therapist.
08.0	Demonstrate knowledge of essential concepts related to pathophysiology.- The student will be able to:	
	08.01	Describe the physiological response in inflammation and cell injury due to pathological insult.
	08.02	Assess the predictive factors, including genetics, lifestyles, age and environment as they influence the development of cancer and associated diseases.
	08.03	Compare the body's response to hereditary, lifestyle, age and environmental factors.
	08.04	Given a specific oncologic-related disease, determine probable diagnostic, prognostic, staging, grading and the rationale for the appropriate therapeutic pathway.
	08.05	Given the histology of a neoplasm, determine the tumor characteristics.
	08.06	Given a common disease, anticipate the effects of the disease on the oncologic patient.
09.0	Demonstrate knowledge of the fundamental principles of radiation therapy. -The student will be able to:	
	09.01	Given diagnostic information about a particular cancer, determine the appropriateness of using radiation therapy as a primary treatment modality.
	09.02	Determine the medical and patient information necessary to develop a radiation therapy treatment plan.
	09.03	Determine the appropriate treatment energy for any given tumor type or location.
	09.04	Differentiate between beam modifiers and their uses with a variety of treatment energies.
	09.05	Determine the appropriate treatment setup aid, immobilization technique and beam modifier for a given treatment technique.
	09.06	Identify inconsistencies between treatment prescription and treatment plan.
	09.07	Develop a conventional simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
	09.08	Develop a CT simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
	09.09	Critique treatment images in relation to simulation images.
	09.10	Discuss the radiation therapist scope of practice and practice standards.

10.0	Demonstrate knowledge of the principles of radiation therapy as it relates to the management of neoplastic disease.- The student will be able to:
10.01	Distinguishes tumor histology to determine pathways associated with cancer and neoplastic disease.
10.02	Examine the role of surgical, radiation and medical oncology to include immunotherapy (biological therapy) and personalized medicine in the management of neoplastic disease.
10.03	Discuss multidisciplinary emerging approaches to neoplastic disease management.
10.04	Discuss the role of radiation therapy in the management of all patient populations with benign and malignant diseases.
10.05	Discuss epidemiologic and etiologic information pertinent to each neoplastic site.
10.06	Discuss the clinical presentation for each anatomic neoplastic site.
10.07	Discuss preventive methods/screening tools associated with each neoplastic site.
10.08	Explain detection, diagnosis, grading and staging systems for each neoplastic site.
10.09	Implement the principles and practice of simulation to prepare a patient for treatment.
10.10	Apply the parameters of treatment field design and arrangement used to treat neoplastic diseases.
10.11	Examine the role of radiation therapy in palliative disease management.
10.12	Identify the treatment regimens and fractionalization schemes used in palliative disease management.
10.13	Describe the role of radiation therapy in the management of oncology emergencies.
11.0	Demonstrate the skills, procedures and knowledge required for effective quality management. The student will be able to:
11.01	Discuss the components of a quality management (QM) program in developing a culture of safety in radiation oncology.
11.02	Discuss the purpose, function and member’s role on a quality management team.
11.03	Explain federal, state and institutional accreditation standards and reporting regulations for quality management.
11.04	Examine outcomes of quality management in radiation oncology.
11.05	Explain the purpose, procedures and frequency for manual and electronic treatment documentation.
11.06	Identify errors in treatment documentation.
11.07	Describe the procedure for assuring accuracy of manual and electronic records.

11.08	Examine the purpose and function of record and verify systems.
11.09	Examine the patient chart in terms of medical and legal issues.
11.10	Discuss the significance of treatment outcomes for patient care, education and research in radiation oncology.
11.11	Discuss the quality indicators to evaluate patient care areas.
11.12	Explain the purpose, procedure and frequency for all QA and QM procedures in a radiation therapy department.
11.13	Evaluate how the outcomes of QA and QM procedures impact patient care, education and research.
11.14	Examine statistical reporting available through quality assurance computerization.
11.15	Perform quality measures for computerized operation, data collection and reporting.
11.16	Determine sources of malfunction on the treatment and simulation/localization units.
11.17	Distinguish between safe and hazardous equipment operation.
11.18	Comply with acceptable quality limits for treatment operation.
11.19	Identify the source of error and determine the effect on treatment delivery, education and research.
11.20	Differentiate between quality management programs.
11.21	Discuss the importance of patient education in the quality management process.
11.22	Discuss the importance of proper patient identification and treatment field documentation.
11.23	Discuss aspects of clinical evaluation, therapeutic decision-making and informed
11.24	Identify the key aspects of delivering a precise prescribed treatment dose.
11.25	Discuss quality control procedures and recommended tolerances for simulation equipment, megavoltage treatment units and treatment planning systems.
11.26	Discuss quality control procedures and recommended tolerances for the safe handling of brachytherapy sources and remote after loading equipment.
11.27	Defend the rational for near miss and error report.
11.28	Critique the safety in radiation oncology.
12.0	Demonstrate an understanding of the integral aspects of radiation biology required of a radiation therapist. . - The student will be able to:
12.01	Integrate laws and principles of radiation biology to the clinical practice of radiation therapy.

12.02	Identify radiosensitive components of the cell.
12.03	Distinguish between units of radiation quantities and radiobiologic measures.
12.04	Differentiate between direct and indirect effects of ionizing radiation.
12.05	Explain factors affecting relative biological effectiveness (RBE).
12.06	Discuss the effects of electromagnetic and particulate radiations on cellular interactions.
12.07	Evaluate factors influencing radiobiologic/biophysical events at the cellular and subcellular level.
12.08	Determine biologic damage due to radiation-induced chemical reactions.
12.09	Discuss radiation effects on the cell cycle.
12.10	Compare somatic and genetic effects of radiation.
12.11	Describe factors influencing radiation response of cells and tissues.
12.12	Discuss the laws of Bergonié and Tribondeau.
12.13	Interpret cell survival curves to determine radiosensitivity under numerous conditions.
12.14	Discuss the relationship of radiation quality and dose to systemic responses.
12.15	Describe radiation syndromes and factors influencing response.
12.16	Differentiate between linear, nonlinear, and threshold and nonthreshold dose response curves.
12.17	Describe the 5 Rs of radiobiology.
12.18	Describe the clinical significance of TD 5/5,TD 50/5 and QUANTEC.
12.19	Discuss the concept of LD50/30.
12.20	Compare the relationship of time, dose, fractionation, volume, distance and site to radiation effects.
12.21	Discuss the use of radiation response modifiers.
12.22	Describe the influence of chemotherapy and hyperthermia alone and in combination with radiation therapy.
13.0	Demonstrate proficient knowledge of physics pertinent to the understanding of radiations used in the clinical setting. - The student will be able to:
13.01	Define the fundamental units of the English, metric and Système International d'Unites (SI) systems.

13.02 Calculate various unit conversions.
13.03 Demonstrate applications of the general principles that relate to inertia, work, energy and momentum.
13.04 Describe Bohr’s theory of atomic structure.
13.05 Compare the characteristics and functions of a proton, neutron and electron.
13.06 Discuss the energy levels of the atom.
13.07 Define the terms relating to atomic nomenclature.
13.08 Compare covalent bonding and ionic bonding.
13.09 Describe the process of ionization.
13.10 Differentiate between the characteristics of a mixture, substance and element.
13.11 Classify the characteristics of an element using the periodic table.
13.12 Compare the characteristics of a molecule and compound.
13.13 Describe the nature of light.
13.14 Explain the relationship between wavelength, frequency and velocity.
13.15 Differentiate between the radiations of the electromagnetic (EM) spectrum.
13.16 Explain the relationship of energy and frequency to Planck’s constant.
13.17 Distinguish between electrical charge and electrical field.
13.18 Describe the methods of electrification.
13.19 Explain the laws of electrostatics and their application.
13.20 Describe the properties and laws of magnetism.
13.21 Explain the electronic spin of an element to its potential magnetic properties.
13.22 Describe the principle of magnetic induction.
13.23 Define potential difference, current, resistance, circuit and electric power.
13.24 Compare the characteristics of direct and alternating currents.

	13.25 Compare electrical measuring devices.
	13.26 Discuss electrical protective devices.
	13.27 Discuss the interaction between electric and magnetic fields.
	13.28 Describe the characteristics and functions of a cathode and rotating anode.
	13.29 Describe the construction and function of tube housing.
	13.30 Identify the parts of an x-ray tube.
	13.31 Determine heat units and cooling characteristics of x-ray tube housings.
	13.32 Propose methods to extend tube life.
	13.33 Discuss application and components of automatic exposure devices.
	13.34 State the principles of x-ray production.
	13.35 Compare the production of bremsstrahlung with the production of characteristic radiations.
	13.36 Compare various photon interactions in terms of description of interaction, relation to atomic number and applications.
	13.37 Discuss relationships of wavelength and frequency to beam characteristics.
	13.38 Define units of radiation measurement and provide an example of its application.
14.0	Demonstrate the principles of radiation protection and safety for the radiation therapist. .- The student will be able to:
	14.01 Distinguish between somatic and genetic effects of radiation exposure.
	14.02 Differentiate between stochastic and nonstochastic effects of radiation exposure.
	14.03 Defend the concept of as low as reasonably achievable (ALARA).
	14.04 Discuss the concept of negligible individual risk.
	14.05 Describe the legal and ethical radiation protection responsibilities of radiation workers.
	14.06 Use appropriate terminology and units when discussing radiation protection issues.
	14.07 Select the correct units of radiation for exposure, absorbed dose, dose equivalence and radioactivity.
	14.08 Discuss the interrelationship between relative biological effectiveness and quality factors.

	14.09 Explain the theory, operation, applications and limitations of radiation detection devices.
	14.10 State the authority, boundaries and regulations of the state and national regulatory agencies.
	14.11 Discuss the requirements and responsibilities of the radiation safety officer.
	14.12 Compare the various methods used for personnel monitoring.
	14.13 State the exposure limits for occupational and nonoccupational individuals.
	14.14 Explain techniques used to reduce unnecessary dose to the patient.
	14.15 Develop an emergency action plan for equipment failure.
	14.16 Discuss the principles of radiation protection room design factors.
	14.17 Describe the elements of a radiation protection survey for an inpatient undergoing brachytherapy.
	14.18 Calculate exposure doses based on time, distance and type of radioactivity.
	14.19 Describe the procedure for a hot lab room survey.
	14.20 Describe procedures to receive and ship radioactive materials.
	14.21 Evaluate a record keeping system for radioactive sources to ensure inclusion of all required elements.
15.0	Demonstrate knowledge of the foundational concepts and competencies in assessment and evaluation of the patient for service delivery. .- The student will be able to:
	15.01 Differentiate between the roles and responsibilities of health care team members treating cancer patients.
	15.02 Demonstrate applications of professional self-care.
	15.03 Examine different psychological aspects of dying.
	15.04 Explain the dynamics of communicating with the cancer patient and family.
	15.05 Recognize radiation side effects and complications and select the appropriate medical intervention.
	15.06 Identify factors that influence a patient’s emotional responses.
	15.07 Formulate content for answers to questions frequently asked by patients.
	15.08 Assess the physical condition of the patient before, during and after treatment delivery.
	15.09 Demonstrate application of the principles of health safety.

	15.10	Discuss the principles of medication administration.
	15.11	Recognize common medications and explain their actions and side effects.
	15.12	Evaluate a patient for an adverse reaction to medication.
	15.13	Describe emergency response procedures.
	15.14	Describe the proper care of patients with tubes.
	15.15	Provide patient education for medical procedures.
	15.16	Assess the patient before, during and after brachytherapy procedures.
	15.17	Demonstrate the application of the principles of radiation protection during brachytherapy procedures.
	15.18	Assess the nutritional status of the cancer patient to provide nutritional education or intervention.
	15.19	Demonstrate proper use of the principles of patient safety and transfer.
	15.20	Provide appropriate patient education following patient assessment.
	15.21	Select patient education materials appropriate for patient needs.
	15.22	Compare conventional and integrative medicine.
16.0	Demonstrate an advanced understanding of the concepts and theories of radiation therapy physics. - The student will be able to:	
	16.01	Compare and contrast atomic structure and composition among the elements, including but not limited to particles (their location, energy level and charge), atomic number and mass number.
	16.02	Compare isotope, isotone, isobar and isomer.
	16.03	Discuss nuclear stability and types of radioactive decay.
	16.04	Categorize the four fundamental forces of nature.
	16.05	Differentiate between electromagnetic (EM) radiation and their characteristics.
	16.06	Describe the processes of ionization and excitation.
	16.07	Calculate radioactivity, decay constant, activity and half-life, average life and attenuation requirements for commonly used isotopes in radiation therapy.
	16.08	Differentiate between artificially produced and naturally occurring therapeutic nuclides.
	16.09	Identify the radioactive series and the decay schemes for commonly used radiation therapy nuclides.

16.10	Explain the various forms of radioactive equilibrium.
16.11	Identify nuclear reactions by recognizing the projectile and radiation emitted.
16.12	Define fission and fusion.
16.13	Discuss the activation of nuclides in terms of yield, probability, activity growth and saturation activity.
16.14	Describe methods of artificial production of radionuclides.
16.15	Describe x-ray production for linear accelerators.
16.16	Compare and contrast the factors that influence x-ray production and output.
16.17	Compare and contrast the energy ranges and characteristics of the various radiation therapy modalities (Grenz-ray through megavoltage).
16.18	Discuss all components and function in a linear accelerator.
16.19	Discuss methods of x-ray production in alternate therapy units (e.g., tomotherapy, stereotactic radiosurgery, etc.)
16.20	Compare the characteristics of other radiation therapy beams (cyclotron and other accelerated particles).
16.21	State the gamma energies and average gamma energy of cobalt 60 (60Co).
16.22	Describe the basic components of a 60Co unit.
16.23	Compare the characteristics of an isotope beam and an x-ray beam.
16.24	Explain linear energy transfer (LET).
16.25	Compare photon interactions with matter and classify radiations produced by direct and indirect ionization.
16.26	Explain major influencing factors of photon beam attenuation.
16.27	Describe the parameters of narrow beam geometry used in the measurement of attenuation.
16.28	Plot heteroenergetic and monoenergetic beam attenuation data.
16.29	Calculate half-value layer (HVL).
16.30	. Calculate the *homogeneity coefficient*.
16.31	Calculate attenuation requirements for beam modification devices.
16.32	Discuss activation of clinical accessories and alternate shielding materials due to photodisentigration.

	16.33 Explain charged particle interactions with matter, describing dose deposition, energy loss and shielding requirements.
	16.34 Define mass stopping power.
	16.35 Describe a Bragg curve.
	16.36 Discuss the purpose and importance of the National Institute of Standards and Technology (NIST).
	16.37 Discuss the purpose and importance of the Accredited Dosimetry Calibration Labs (ADCL).
	16.38 Demonstrate use of the appropriate type of radiation detector for given clinical applications.
	16.39 Calculate correction factors for chamber calibration, temperature, pressure and other factors used to correct a chamber reading.
	16.40 Discuss protocols used for external beam calibration.
	16.41 Analyze spot check data to make appropriate judgment decisions regarding machine treatment parameters. Describe the quality of a gamma-ray (γ) beam in terms of HVL, γ energy or mean γ energy/nuclide of origin.
	16.42 Describe beam filtration for the various external beam modalities, including but not limited to purpose, types of filters and their construction, energy considerations, inherent vs. added filtration and effect on HVL.
	16.43 Calculate the approximate mean energy of a megavoltage beam.
	16.44 Compare absorbed dose vs. exposure.
	16.45 Discuss the relationship between kinetic energy released in the medium (KERMA), exposure and absorbed dose.
	16.46 Calculate air dose to absorbed dose conversions in tissue, including but not limited to, energy considerations, applicable conversion factors, necessary instrumentation and methods.
	16.47 Discuss the clinical importance of phantom material and size when applying the Bragg-Gray Cavity Theory.
	16.48 Critique how dose distribution measured in a phantom is used to predict dose distribution in a patient.
	16.49 Compare the characteristics and composition of various phantoms.
	16.50 Compare source-skin distance (SSD) and isocentric methods of calibration.
17.0	Demonstrate proficiency in research methods and information literacy. .- The student will be able to:
	17.01 Analyze research articles to determine the accuracy and validity of findings.
	17.02 Integrate information literacy concepts into a research project.
	17.03 Critique research projects to determine appropriateness and usefulness to the profession.
18.0	Demonstrate the skills, techniques and knowledge required for medical imaging methods to capture sectional anatomy. .- The student will be able to:

	18.01	Relate the importance of imaging with computed tomography, magnetic resonance and PET-CT in radiation therapy.
	18.02	Differentiate between sagittal, coronal and axial planes of the body.
	18.03	Review the principles of imaging for imaging modalities using relevant terminology.
	18.04	Compare the imaging modalities for application to radiation therapy.
	18.05	Identify normal anatomical structures on sectional images.
	18.06	Identify topographic anatomy used to locate underlying internal structures.
	18.07	Describe image formation and orientation for computed tomography, magnetic resonance, positron emission tomography, ultrasonography and image fusion.
19.0	Demonstrate the skills, techniques and knowledge required for the clinical planning of patient treatment. .- The student will be able to:	
	19.01	Compare photon isodose curves for clinically relevant photon beams.
	19.02	Describe the general influencing factors that distinguish various isodose curves.
	19.03	Determine internal and external patient factors that influence a beam's distribution and apply isodose correction methods.
	19.04	Describe methods of determining a patient's external contour, definition of internal structures and volumes of interest used in treatment planning.
	19.05	Identify organs and tissues at risk and their dose limitations using published tolerance dose tables.
	19.06	Describe how biologic effective dose is influenced by prescription and treatment variables.
	19.07	Compare fractionation schemes.
	19.08	Discuss the integral dose concept.
	19.09	Use appropriate factors for treatment calculations.
	19.10	Describe the interrelationships of the various factors used in treatment calculations.
	19.11	Perform dose calculations for external photon and electron beam treatments for all clinical variations.
	19.12	Calculate the absorbed dose to off-axis points of interest.
	19.13	Compare absorbed doses within a treatment volume with beam variations.
	19.14	Explain algorithms incorporated into treatment planning computers.
	19.15	Describe the clinical applications for moving beam techniques.

19.16	Describe the past pointing technique.
19.17	Calculate equivalent squares using various methods and consider the limitations of each.
19.18	Describe the effect of asymmetric beam collimation on dose distribution.
19.19	Describe methods for determining dose distribution at points outside the treatment field.
19.20	Calculate dose under a block.
19.21	Evaluate a variety of treatment plans for clinical use.
19.22	Identify all possible techniques that may be employed to clinically match adjacent fields.
19.23	Describe the multiple junction shift methods.
19.24	Examine hot and cold regions that occur with the various matching methods, and describe the methods used to eliminate them.
19.25	Describe procedures for permanent record and legal documentation of matching fields.
19.26	Analyze dose distributions to determine the need for beam modifiers.
19.27	Compare various methods of tissue compensation and the dosimetric impact.
19.28	Examine the fabrication of 2-D and 3-D compensators.
19.29	Construct manual and computerized isodose curves.
19.30	Differentiate between isodose distributions for all clinical variations.
19.31	Evaluate possible corrections for treatment errors to correct misadministration of prescribed dose.
19.32	Differentiate between the treatment planning terms: maximum, minimum, mean, modal and median dose.
19.33	Describe International Commission on Radiological Units (ICRU) recommendations on dose variance within a target volume and the effect that variances may have on cure rates, local control and tolerance.
19.34	Analyze dose volume histograms relative to treatment planning.
19.35	Evaluate patient changes to determine the integrity of a treatment plan.
19.36	Compare electron beam depth dose characteristics for various energies.
19.37	Identify clinical factors that would influence beam type and energy selection.
19.38	Differentiate between standard treatment distance and virtual distance.

19.39	Discuss why equivalent squares used with photon beams are inappropriate with electron beams.
19.40	Describe how inhomogeneities influence electron beam path.
19.41	Discuss the considerations of matching an electron field to other adjacent photon or electron fields.
19.42	Analyze which shielding materials and thickness would be needed to attenuate electron beams to appropriate levels.
19.43	Describe how electron shielding materials should be arranged for external vs. internal shielding.
19.44	Discuss changes in dose rate and dose distribution with changes in blocking and electron energy.
19.45	Compare calculations of shielding thicknesses to measured data for electron beams.
19.46	Determine why specific isodose lines are prescribed for various clinical situations involving critical and noncritical structures.
19.47	Calculate percentage depth dose for 10%, 50%, 80% and 90% lines for various electron energies.
19.48	Describe the considerations in the clinical application of special electron treatments, including total skin irradiation and arc therapy.
19.49	Compare the general isodose pattern of particle beams.
19.50	Determine clinical usefulness of various beam types and the clinical implications involved.
19.51	Describe the various imaging modalities in tumor localization and planning.
19.52	Discuss planning techniques used to accommodate the treatment volume shape.
19.53	Discuss isocenter localization for radiosurgery.
19.54	Identify vital structures considered during treatment planning.
19.55	Compare single dose delivery to fractionated dose delivery schedules.
19.56	Discuss the need for specific equipment used to deliver radiation for conformal therapy.
19.57	Discuss the purpose and contents of the ICRU Report 62 and supplements.
19.58	Discuss the computer system features necessary for conformal therapy treatment planning.
19.59	Identify common sites amenable to conformal therapy and the typical doses employed for those sites.
19.60	Compare configurations of multileaf collimation systems.
19.61	Discuss considerations for multileaf collimators.

19.62	Review the differences between static and dynamic multileaf collimation systems.
19.63	Identify appropriate clinical applications for brachytherapy.
19.64	Compare and contrast brachytherapy delivery systems.
19.65	Describe the techniques and applicators used for intracavitary, interstitial and endovascular brachytherapy procedures.
19.66	Explain how simulation and CT data is used for source localization.
19.67	Discuss the objective of treatment planning for brachytherapy procedures.
19.68	Summarize dose specification and prescription techniques for different types of implants.
19.69	Describe optimization techniques used in computer aided dose calculations.
19.70	Discuss record keeping requirements for radioactive material.
19.71	State radiation safety requirements for brachytherapy procedures.
19.72	Identify appropriate clinical applications for using intensity modulated radiation therapy (IMRT).
19.73	Describe the general flow of the IMRT process from patient immobilization through treatment delivery.

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Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical education has been established for the students in these programs. It is designed to permit accurate assessment of the knowledge, skills and abilities of students in the clinical education component of the program. After completion of the prerequisite practice of radiotherapeutic procedures, students indicate readiness for evaluation in a specific category to the clinical affiliate or faculty in the assigned clinical education center.

Clinical education and laboratory activities facilitate student rotations to provide them equitable opportunity to achieve the program clinical objective utilizing multiple affiliates. The resulting clinical rotation and laboratory practicum provides students with patient treatment techniques utilizing a variety of megavoltage equipment, radiation therapy patient care procedures, localization and treatment, radiation therapy physics including dosimetry, machine calibration, quality assurance, handling of sealed radioactive sources and protection, follow up, patient care and patient recordkeeping.

Special Notes

The program is designed to provide the radiation therapy community with workers who, under the supervision of a Radiation Oncologist, uses ionizing radiation to treat disease. The curriculum provides students an opportunity to develop technical and social skills through experiences in the clinic, classroom, and laboratory.

Students are encouraged to become members of their appropriate professional organizations such as the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its' local affiliate.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary

education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Central Sterile Processing Technologist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090903
Program Type	College Credit Certificate (CCC)
Program Length	30 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9093 Medical Equipment Preparers

Purpose

This certificate program is part of the Surgical Services AS degree program (1351000002).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as central sterile processing technicians SOC Code 31-9093.00 (Medical Equipment Preparers), central service technicians.

The content includes but is not limited to central services departmental organization and function; basic anatomy, physiology, microbiology and chemistry related to central service activities; quality assurance; infection control and isolation techniques, principles of safety; principles, methods and controls of sterilization processes; cleaning, processing, packaging, distributing, storing, and inventory control of sterile goods, instruments, trays, and equipment; medical terminology; surgical instrumentation; basic computer skills, interpersonal and job seeking skills, fundamentals of communication, case cart management, laparoscopic specialty, orthopedic specialty, flexible scope processing , shift supervisory skills and procurement of supplies and equipment.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Describe supply distribution systems and the principles of inventory control.
13.0 Demonstrate the ability to recall and dispose of or reprocess sterile supplies.
14.0 Identify fundamentals of procurement skills.
15.0 Demonstrate language arts knowledge and skills.
16.0 Solve problems using critical thinking skills, creativity and innovation.
17.0 Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.
18.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
19.0 Demonstrate the roles and responsibilities of the central supply worker.
20.0 Recognize basic principles of microbiology.
21.0 Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel.
22.0 Describe how central service is involved in controlling infections in hospitals.
23.0 Explain the purpose of occupational safety and health Act.
24.0 Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items.
25.0 Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers.
26.0 Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty.

Florida Department of Education
Student Performance Standards

Program Title: **Central Sterile Processing Technologist**
CIP Number: **0351090903**
Program Length: **30 Credit Hours**
SOC Code(s): **31-9093**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Surgical Services AS degree program (1351000002). At the completion of this program, the student will be able to:	
Students completing intended outcomes (12-26), in addition to the health careers core, will meet the requirements of Central Sterile Processing Technologist – CCC (SOC Code 31-9093).	
12.0	Describe supply distribution systems and the principles of inventory control -- The student will be able to:
12.01	Define the benefits of inventory control.
12.02	Describe the methods of inventory control.
12.03	Compare the advantages and disadvantages of each distribution methods.
12.04	Process a requisition marked "stat" - locate article, price, etc.
12.05	Demonstrate the process of stock rotation.
12.06	Identify the uses of sterility maintenance covers.
12.07	Describe the processes for loaner instrumentation and equipment.
12.08	Describe the process of product evaluation.
12.09	Describe the procedures for tracking the usage of medical/surgical supplies, patient care equipment and specialty carts.

	12.10 Describe the procedures for documenting supply and equipment charges.
	12.11 Demonstrate the methods of case cart preparation and the utilization of preference cards.
13.0	Demonstrate the ability to recall and dispose of or reprocess sterile supplies -- The student will be able to:
	13.01 Explain the factors that affect how long a package can be considered safe for use.
	13.02 Explain the differences between event related, date related, and manufacturer recommendations.
	13.03 State the methods of determining expiration dates.
	13.04 List the steps in reprocessing outdated hospital packaged items.
	13.05 List conditions that would make a product unsafe for use
	13.06 Describe the use of tamper evident seals.
	13.07 Describe the methods of reprocessing.
	13.08 Identify standards and facility policies on reprocessing of single use items.
	13.09 Describe the process of recall for medical/surgical supplies.
14.0	Identify fundamentals of procurement skills -- The student will be able to:
	14.01 Describe procurement system.
	14.02 Communicate with other hospitals, facilities, or company representatives for procurement of supplies and equipment.
	14.03 Describe several different methods of procurement of supplies.
	14.04 Describe basics of receiving items, including documentation of receiving and release to other facilities.
15.0	Demonstrate language arts knowledge and skills – The students will be able to:
	15.01 Locate, comprehend and evaluate key elements of oral and written information.
	15.02 Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.
	15.03 Present information formally and informally for specific purposes and audiences.
16.0	Solve problems using critical thinking skills, creativity and innovation – The students will be able to:
	16.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.

	16.02 Employ critical thinking and interpersonal skills to resolve conflicts.
	16.03 Identify and document workplace performance goals and monitor progress toward those goals.
	16.04 Conduct technical research to gather information necessary for decision-making.
17.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment – The students will be able to:
	17.01 Describe the nature and types of business organizations.
	17.02 Explain the effect of key organizational systems on performance and quality.
	17.03 List and describe quality control systems and/or practices common to the workplace.
	17.04 Explain the impact of the global economy on business organizations.
18.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives. – The students will be able to:
	18.01 Employ leadership skills to accomplish organizational goals and objectives.
	18.02 Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	18.03 Conduct and participate in meetings to accomplish work tasks.
	18.04 Employ mentoring skills to inspire and teach others.
	18.05 Analyze attributes and attitudes of an effective leader.
	18.06 Recognize factors and situations that may lead to conflict.
	18.07 Demonstrate effective techniques for managing team conflict.
19.0	Demonstrate the roles and responsibilities of the central supply worker. -- The student will be able to:
	19.01 Describes professional standards related to personal hygiene and dress codes.
	19.02 Identifies relevant federal, state, and local guidelines, standards and regulations.
	19.03 Describes the function and workflow of the sterile processing department.
	19.04 Apply ergonomic considerations and appropriate body mechanics for lifting, turning, pulling, pushing, and reaching.
	19.05 Apply policies and procedures related to sterile processing functions (safety, infection control, disaster control, disaster, MSDS, incident reports, etc).
	19.06 Describes importance of following device, equipment, instrument or supply manufacturer’s instructions for processing, operation, and troubleshooting.

20.0	Recognize basic principles of microbiology -- The student will be able to:
	20.01 Describe terms related to microbiology and the control of microorganisms in central sterile processing departments.
	20.02 Identify the main categories of microorganisms.
	20.03 Describe the life functions of microorganisms.
	20.04 Describe conditions affecting the growth of bacteria.
	20.05 Describe special methods used to destroy harmful microorganisms on fomites in the environment.
	20.06 List the helpful microorganisms.
	20.07 Describe how the body controls the growth of pathogenic microorganisms.
	20.08 Identify pathogenic microorganisms commonly found in central service departments.
21.0	Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel -- The student will be able to:
	21.01 Identify word elements for medical terms.
	21.02 Relate anatomical concepts to orthopedic devices and other supplies and equipment issued by the CS Department.
22.0	Describe how central service is involved in controlling infections in hospitals -- The student will be able to:
	22.01 Describe nosocomial infections.
	22.02 Describe the types of isolation.
	22.03 Describe the organization and functions of CS.
	22.04 Describe the CS responsibilities for infection control and traffic patterns when in the operating room and other departments.
	22.05 Identify proper storage and transportation standards for supplies in the facility (receivables, sterile, clean, or contaminated).
	22.06 Describe the organizational patterns of health care facilities.
23.0	Explain the purpose of occupational safety and health Act -- The student will be able to:
	23.01 Describe how employees are protected under OSHA.
	23.02 Describe potential workplace hazards in CS. (wet floors, chemicals, fumes, gases, steam, electrical outlets, body fluids, microorganisms, sharps, and medical wastes.)
	23.03 Describe the role preventive maintenance plays in patient and personnel safety in the hospital.

	23.04	Explain the purpose of Florida's "Right to Know" law and its provisions.
	23.05	Describe the protocol for personal injury including the completion of incident/occupancy reports and follow up.
	23.06	Implement appropriate regulatory and accreditation agency patient safety guidelines.
24.0	Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items -- The student will be able to:	
	24.01	Describe the importance of thorough cleaning to the overall objectives of making items safe for patient use.
	24.02	Explain the importance of following manufacturers' instructions in cleaning each item for reprocessing.
	24.03	Describe the levels of disinfection, the cleaning process and methods of disinfection for the environment, instruments, syringes, needles, rubber goods and equipment.
	24.04	Describe the mechanisms of action for each disinfection method including ultrasonic machines and washer/sterilizers..
	24.05	Describe the strategies for managing difficult to control microorganisms that require isolation techniques and specialized decontamination methods including Creutzfeldt-Jakob Disease (CJD). .
	24.06	Describe the factors affecting decontamination (water temperature, loading procedures, water impurities, opening and disassembling)
	24.07	Distinguish correct reprocessing policies related to single use, limited use, and reusable items.
	24.08	Describe decontamination methods for drill systems and batteries
	24.09	Describe the function of case cart washers, and alternative methods of cleaning.
	24.10	Describe the need for testing and monitoring all decontamination machines for proper function and cleaning agents.
	24.11	Explain the importance of using correct chemicals for cleaning in regards to water quality, PH, filters, softeners, enzymes, lubricants.
	24.12	Describe the types, characteristics, and uses of chemicals, solutions, and gases utilized for decontamination. (Detergents, disinfectants, enzymatics, germicides).
	24.13	Demonstrate the decontamination process for instruments, syringes, needles, rubber goods and equipment.
	24.14	Demonstrate flexible endoscopic leak testing, decontamination, and reprocessing.
	24.15	Demonstrates decontamination and proper handling of rigid scopes.
	24.16	Describes the methods of high level disinfection including manual and automated endoscopic reprocessor (AER).
	24.17	Describe the types of sterilizers and methods of sterilization.
	24.18	Describe the primary objectives in selecting the correct packaging materials for both the individual item and the sterilization method to be used.

	24.19 Describe the principles of packaging.
	24.20 Describe the characteristics of packaging materials in relationship to sterilization methods.
	24.21 Describe the principles of linen pack and tray construction/assembly.
	24.22 Describe the recommended labeling methodologies.
	24.23 Identify basic surgical procedure trays, instruments, supplies, and accessories.
	24.24 Explain the principles utilized when loading different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.25 Recognize equipment malfunction and list corrective actions.
	24.26 Demonstrate the wrapping of procedures trays, instruments and other supplies.
	24.27 Demonstrate loading of different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.28 Describe how sterile supplies should be handled.
	24.29 Demonstrate handling, transportation and storage of clean, sterile and nonsterile supplies and equipment.
25.0	Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers -- The student will be able to:
	25.01 Describe the types of sterilization, sterilization cycles, and parameters for each.
	25.02 Describe the importance of the manufacturer's recommendations for the safe operation of each type of sterilizer.
	25.03 Describe the methods of sterilization monitoring.
	25.04 Demonstrate the process of preparing and documenting the sterilizer load contents for each sterilizer correctly according to the manufacturer's recommendations.
	25.05 Demonstrate the operation, testing, and monitoring of sterilizers.
	25.06 Demonstrate the ability to interpret and document monitoring devices, printouts, and charts accurately for each sterilization system utilized.
	25.07 Identify the standards for, and facility policy regarding, frequency of monitoring for all sterilizers.
26.0	Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty. The student will be able to:
	26.01 Describe instrument terminology and identify the anatomy of surgical instruments (jaws, shanks, box locks, rings, etc.)
	26.02 Describe the types and functions of instruments.
	26.03 Describe the types of instrument construction.

26.04	Demonstrate appropriate techniques for inspection and testing of instruments.
26.05	Identify instrumentation and equipment by name and usage.
26.06	Correctly label instrumentation and equipment.
26.07	Demonstrate the methods of instrument identification, marking, and tracking of use.
26.08	Demonstrate the assembly of various instrument sets and specialty equipment.
26.09	Demonstrate the process regarding the manufacturer’s recommendations for instrument and equipment care including handling, operation, maintenance and troubleshooting.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

The standard length of this program is 900 clock hours or 30 credit hours. This includes the Health Careers Core (90 clock hours).

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Inquiries about a voluntary certification for sterile processing and distribution may be made to:

International Association of Hospital Central Service Materiel Management (IAHCSMM)
213 West Institute Place, Suite 307, Chicago, IL 60610
Toll Free: 800-962-8274

OR

Certification Board for Sterile Processing and Distribution, Inc. (CBSPD)
2 Industrial Park Road-Suite 3
Alpha, NJ 08865

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the National Health Care Foundation Skill Standards Assessment will be taken with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Surgical Technology Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090904
Program Type	College Credit Certificate (CCC)
Program Length	49 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2055 Surgical Technologists

Purpose

This certificate program is part of Surgical Services AS degree program (1351000002).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as surgical technologists SOC 29-2055.

The content includes but is not limited to communication and interpersonal skills, legal and ethical responsibilities, anatomy, physiology, pathophysiology, microbiology, aseptic techniques, patient care procedures, surgical technology procedures, patient safety, use and care of equipment and supplies, CPR, Heartsaver, employability skills, and basic computer literacy.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate central supply skills.
13.0 Use communication and interpersonal skills as related to surgical technology.
14.0 Demonstrate an understanding of the basic sciences related to surgical technology.
15.0 Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.
16.0 Describe and practice safety measures in the surgical environment.
17.0 Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs.
18.0 Demonstrate knowledge of the skills necessary to function safely and effectively.
19.0 Demonstrate knowledge of and assist with surgical procedures.
20.0 Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology.

Florida Department of Education
Student Performance Standards

Program Title: **Surgical Technology Specialist**
CIP Numbers: **0351090904**
Program Length: **49 Credit Hours**
SOC Code(s): **29-2055**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of Surgical Services AS degree program (1351000002). At the completion of this program, the student will be able to:

Students completing intended outcomes 12-20, in addition to the health careers core, will meet the requirements of the Surgical Technology Specialist-CCC (SOC Code 29-2055).

12.0	Demonstrate central supply skills. –The student will be able to:
12.01	Apply the principles of medical/surgical asepsis including attire, environmental control and traffic patterns to control and manage dirty, clean and sterile areas of the operating room and central supply.
12.02	Apply infection control techniques following Center for Disease Control (CDC) guidelines.
12.03	Inspect and send out for repair instruments, equipment and supplies regarding condition and quantity.
12.04	Describe the methods of disinfection and sterilization.
12.05	Demonstrate the handling, inspection and notification process regarding package integrity.
12.06	Demonstrate correctly decontamination techniques for instruments, equipment, and the environment used for surgical procedures.
12.07	Describe clean and sterile transportation, restocking, and storage principles for instruments, supplies and equipment.
12.08	Identify instruments, supplies and equipment for any surgical procedure.
12.09	Describe various supply distribution and inventory control methods.
12.10	Demonstrate ability to prepare and label items for high level disinfection and sterilization correctly.

	12.11 Demonstrate the techniques of high level disinfection and sterilization for immediate use items.
	12.12 Demonstrate case cart preparation and management.
13.0	Use communication and interpersonal skills as related to surgical technology. – The student will be able to:
	13.01 Describe various forms of communication in the role of surgical technologist.
	13.02 Analyze and select the appropriate behavioral response unique to the patient's needs.
	13.03 Describe the concepts of conflict resolution, assertive behavior and the principles of teamwork in the surgical environment.
14.0	Demonstrate an understanding of the basic sciences related to surgical technology. – The student will be able to:
	14.01 Describe the concepts of microbiology and relate key principles to the surgical environment.
	14.02 Compare and contrast the structure and characteristics of microorganisms found in the surgical environment.
	14.03 Relate medical terminology, medical abbreviations, and anatomy and physiology to surgical specialties and specific procedures.
	14.04 Analyze patient defense mechanisms, the chain of infection and the infectious process as related to surgical practice.
	14.05 Demonstrate infection and disease transmission control techniques following the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) guidelines for surgery.
	14.06 Correlate wound classifications and wound healing principles with wound management guidelines.
	14.07 Discuss the principles of information technology, electricity and robotics as they relate to surgery.
15.0	Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.-The student will be able to:
	15.01 Describe the roles of the anesthesia provider and circulating nurse.
	15.02 Analyze the administration of anesthesia including the methods, agents, and techniques.
	15.03 Describe the preoperative examination and preparation process for both surgery and anesthesia.
	15.04 Describe potential anesthesia and operative complications and interventions for each.
	15.05 Define the terminology and describe the basic concepts of pharmacology including pharmacokinetics and pharmacodynamics.
	15.06 Identify the classifications, actions, effects and precautions for common drugs used at the sterile field and within the surgical environment.
	15.07 Demonstrate the application of the six rights of medication administration.
	15.08 Analyze and assemble correctly all medication supplies, for each drug to be used on the sterile field.

	15.09	Demonstrate the appropriate methods of transferring and accepting medications onto the sterile field.
	15.10	Prepare, manage and label sterile solutions and medications accurately within the sterile field.
	15.11	Correctly calculate common medication conversions and dosages.
	15.12	Demonstrate preparation and passing of medication mixtures using ratio and proportions correctly. .
	15.13	Maintains an accurate account of the amount of each medication and/or solution used at the field and notifies circulator as appropriate to the situation to ensure accurate documentation.
16.0	Describe and practice safety measures in the surgical environment. – The student will be able to:	
	16.01	Describe the role, job duties and responsibilities of the surgical technologist in the healthcare setting.
	16.02	Inspect emergency equipment and supplies for condition and quantity.
	16.03	Demonstrate appropriate safety measures to prevent operating room fires and electrical shock from equipment. .
	16.04	Describe appropriate safety measures for laser and electrosurgical unit usage in surgery.
	16.05	Implement appropriate regulatory and accreditation agency patient safety guidelines
	16.06	Describe the role of the surgical technologist in a disaster situation.
	16.07	Describe the role of the surgical technologist in an emergency patient situation.
	16.08	Prepare the operative site.
	16.09	Perform steps for Foley catheter insertion and connecting to drainage correctly.
17.0	Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs. – The student will be able to:	
	17.01	Perform patient transfer/transportation techniques used in the operating room.
	17.02	Assist with positioning and apply safety devises to the patient for surgery
	17.03	Ground patient and connect electrosurgical cautery unit.
	17.04	Describe the roles of anesthetist and circulating nurse during induction.
	17.05	Prepare the operative site.
	17.06	Perform steps for foley catheter insertion and connecting to drainage
	17.07	Apply sterile dressing and bandage.

18.0	Demonstrate knowledge of the skills necessary to function safely and effectively. – The student will be able to:
18.01	Select and verify instruments, equipment and supplies, including any implants needed for surgical procedures using surgeon preference/procedure cards including those identified as “have available/hold items”. .
18.02	Measure and pour sterile solutions.
18.03	Perform surgical scrub.
18.04	Put on sterile gown and gloves.
18.05	Drape tables and solution stands.
18.06	Set up sterile mayo stand and instrument table.
18.07	Prepare sutures, ligatures, ties.
18.08	Prepare, pass, and monitor amount given for medications used on the sterile field.
18.09	Assist surgeon in gowning and gloving.
18.10	Assist in draping patient, pass instruments, monitor field.
18.11	Identify/correct and/or report breaks in aseptic technique.
18.12	Monitor body fluids, e.g. blood loss, ascites.
18.13	Perform complete counts with R.N.
18.14	Identify principles and demonstrate techniques of disinfection and sterilization.
18.15	Assist in removing/applying cast.
18.16	Assist in maintaining retraction, cutting suture and holding instruments as directed by the surgeon in the second assistant role.
18.17	Prepare specimen for laboratory analysis.
18.18	Decontaminate instruments equipment and environment.
18.19	Replenish supplies and equipment.
18.20	Describe how to update procedure/preference cards.
18.21	Apply electrical knowledge to safe patient care practices in surgery.
19.0	Demonstrate knowledge of and assist with surgical procedures. – The student will be able to:

	19.01	Identify preoperative diagnosis, common complications, and operative pathology relating to specific surgical procedures.
	19.02	List and describe types of incisions and wound closures.
	19.03	Describe the usual sequence of a common surgical procedure (i.e. incision into the anatomy, dissection of the anatomy and closing of the anatomy.) .
	19.04	Demonstrates the ability to select the appropriate instrument, equipment, or supply for each step of the procedure.
	19.05	Demonstrates proper cost effective methods including the ability to identify “have available/hold items”.
20.0	Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology. – The student will be able to:	
	20.01	State methods, standards and aids that assist a surgical technologist with interpreting and following legal responsibilities.
	20.02	Describe the role of the surgical technologist in the healthcare setting. Provide health care within the ethical/legal framework of the surgical technologist’s role.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

The Human Patient Simulator (HPS) or other accepted simulation scenarios may be used for a limited number of clinical hours. A low teacher-student ratio in the lab and clinical area is strongly recommended. The recommended maximum ratio is 1:6.

Special Notes

Selected portions of this program may be utilized to provide additional skills to enable nursing graduates to become employable in operating rooms as surgical technologists. The program should meet the requirements of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or Accrediting Bureau of Health Education Schools (ABHES).

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

After successful completion of a Commission on Accreditation of Allied Health Education Programs (CAAHEP) or Accrediting Bureau of Health Education Schools (ABHES) accredited program, students are eligible to take the National Board of Surgical Technologist and Surgical Assisting (NBSTSA), Certified Surgical Technologist exam.

Please contact NBSTSA for more information on this exam:

National Board of Surgical Technologist and Surgical Assisting (NBSTSA)
6 West Dry Creek Circle, Suite 100 Littleton, Colorado 80120
Toll-free: (800) 707-0057

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Surgical First Assistant**
Career Cluster: **Health Science**

CCC	
CIP Number	0351090908
Program Type	College Credit Certificate (CCC)
Program Length	59 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2055 Surgical Technologists 31-9099 Healthcare Support Workers, All Other

Purpose

This certificate program is part of the Surgical First Assisting AS degree program (1351090900).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as a Surgical First Assistant Expanded Function (Surgical technologists is SOC 29-2055).

The content includes, but is not limited to, communication and interpersonal skills, legal and ethical responsibilities, anatomy, physiology, pathophysiology, microbiology, aseptic techniques, patient care procedures, surgical procedures, patient safety, use and care of equipment and supplies, CPR, Heartsaver, employability skills, basic computer literacy and surgical first assistant skills such as preoperative duties, aid in exposure, hemostasis, closure, intraoperative technical functions, and postoperative duties under the direction and supervision of the surgeon.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate central sterile processing skills.
13.0 Demonstrate competencies in the core components of the surgical first assistant related to communication and interpersonal skills
14.0 Demonstrate an understanding of the basic sciences related to surgical first assisting.
15.0 Describe and practice safety measures in the surgical environment.
16.0 Perform patient care procedures related to the surgical environment and describe methods for meeting patient's needs.
17.0 Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.
18.0 Demonstrate knowledge of the basic surgical skills necessary to function safely and effectively.
19.0 Demonstrate competencies in the core components of the surgical first assistant related to knowledge and skills.
20.0 Demonstrate competencies in the core components of the surgical first assistant related to legal and ethical responsibilities.

Florida Department of Education
Student Performance Standards

Program Title: **Surgical First Assistant**
CIP Number: **0351090908**
Program Length: **59 credits**
SOC Code(s): **29-2055; 31-9099**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Surgical First Assisting AS degree program (1351090900). At the completion of this program, the student will be able to:	
Students completing intended outcomes 12-20 will meet the requirements of the Surgical First Assistant –CCC Program (SOC Code 29-2055).	
12.0	Demonstrate central sterile processing skills. --The student will be able to:
12.01	Apply the principles of medical/surgical asepsis including attire, environmental control and traffic patterns to control and manage dirty, clean and sterile areas of the operating room and central supply.
12.02	Identify relevant federal, state and local guidelines, standards and regulations.
12.03	Apply ergonomic considerations and appropriate body mechanics for lifting, turning, pulling, pushing, reaching, and other work related activities.
12.04	Describe the methods of disinfection and sterilization.
12.05	Describe the importance of following device, equipment, instrument or supply manufacturer's instructions for decontamination, processing, operation, and troubleshooting.
12.06	Demonstrate correctly decontamination techniques for instruments, equipment and the environment used during surgical procedures.
12.07	Demonstrate appropriate techniques for inspection, testing and sending out for repair instruments, equipment and supplies regarding condition, quantity and quality.
12.08	Describe clean and sterile transportation, restocking, and storage principles for instruments.
12.09	Analyze the results of sterilization process monitors used in sterilization units, sterilizations cycles and ensures documentation meets the safe parameters for each prior to use of an item.

	12.10	Describe clean and sterile transportation, restocking, and storage principles for supplies in the facility (receivables, sterile, clean, or contaminated).
	12.11	Demonstrates the ability to identify and select appropriate instruments, equipment and supplies for any surgical procedure.
	12.12	Demonstrate the ability to prepare and label items for high level disinfection and sterilization as required.
	12.13	Demonstrate the techniques of high level disinfection and sterilization for immediate use items.
	12.14	Describe various supply distribution and inventory control methods.
	12.15	Demonstrate case cart preparation and management.
13.0	Demonstrate competencies in the core components of the surgical first assistant related to communication and interpersonal skills -- The student will be able to:	
	13.01	Demonstrate proper use of communication systems.
	13.02	Use various forms of communication in the role of Surgical First Assistant to communicate relevant, accurate and complete information in a concise and clear manner.
	13.03	Collaborate with the patient, surgeon, and other members of the Healthcare team to assess, plan, implement, and evaluate the patient's surgical care to promote positive outcomes including the use of preoperative checklists and preoperative assessment and evaluations methods.
	13.04	Demonstrate patient interviewing techniques.
	13.05	Demonstrate the ability to analyze and communicate specific patient care factors or needs and the surgeon's preferences to the surgical team including suture needs, specialty supplies and instrumentation, and equipment.
	13.06	Describe the concepts of conflict resolution, assertive behavior and the principles of teamwork as a patient advocate and assistant to the surgeon.
	13.07	Demonstrate competency regarding reporting and documentation responsibilities in the clinical setting.
	13.08	Employ leadership skills to accomplish organizations goals and objectives.
	13.09	Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	13.10	Conduct and participate in meetings to accomplish work tasks.
	13.11	Employ mentoring skills to inspire and teach others.
14.0	Demonstrate an understanding of the basic sciences related to surgical first assisting.--The student will be able to:	
	14.01	Apply knowledge of the microbial environment to the surgical care of the patient.
	14.02	Analyze patient defense mechanisms, the chain of infection and the infectious process as related to surgical practice and the prevention of surgical site infections.
	14.03	Correlate wound classifications and wound healing principles with wound management guidelines and complications.

	14.04	Demonstrate infection and disease transmission control techniques following the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) guidelines for surgery.
	14.05	Describe the causes, clinical signs and symptoms and prevention measures for surgical infections.
	14.06	Describe the basic composition, principles, clinical signs and symptoms regarding electrolytes and fluid balance including the mechanism of hypovolemic, septic, hemorrhagic and cardiogenic shock.
	14.07	Correlates the principles and disorders of hematology, hemostasis, types of blood components, and coagulation with hemostasis in surgery.
	14.08	Discuss the principles of information technology, electricity, and robotics as they relate to surgery.
15.0	Describe and practice safety measures in the surgical environment.--The student will be able to:	
	15.01	Inspect emergency equipment and supplies for condition and quantity.
	15.02	Implement appropriate Joint Commission patient safety goals.
	15.03	Demonstrate appropriate safety measures to prevent operating room fires and electrical shock from equipment.
	15.04	Apply knowledge of surgical hazards to safe patient care.
	15.05	Demonstrate the safe inspection and utilization of laser, electrical, endoscopic, and robotic equipment.
	15.06	Describe and practice appropriate safety measures for laser, electrical, endoscopy and robotic surgery.
	15.07	Describe the role preventive maintenance, prevention, correction, and documentation plays in patient and personnel safety and the prevention of medical errors in the surgical setting.
	15.08	Explain the purpose of Florida’s “Right to Know” law and its provisions.
	15.09	Describe the role of the surgical technologist and surgical first assistant in an emergency patient situation.
	15.10	Describe the protocol for personal injury including the completion of incident/occupancy reports and follow up.
	15.11	Describe the preparation and planning, detection and communication, incident management and support systems, safety and security, clinical/public health assessment and intervention, contingency, continuity and recovery and the public health law and ethics of All-Hazards Preparation for disasters.
	15.12	Conduct technical research to gather information for decision-making.
	15.13	List and describe quality control systems and/or practices common to the workplace.
	15.14	Employ critical thinking skills independently and in teams to solve problems, resolve conflicts, and make decisions.
16.0	Perform patient care procedures related to the surgical environment and describe methods for meeting patient's needs.--The student will be able to:	
	16.01	Identify the roles of the members of the surgical team during each phase of surgery.

	16.02	Assist surgeon with the perioperative care of the surgical patient.
	16.03	Correlate the preoperative examination and preparation process for both surgery and anesthesia with the identification of potential patient factors that may inhibit positive outcomes.
	16.04	Describe appropriate review and identification of patient factors regarding the chart including preoperative identification, preoperative checklists, diagnostic tests, lab values and surgical consent.
	16.05	Demonstrate safe patient transfer/transportation techniques used in the perioperative setting.
	16.06	Monitor OR traffic, placement of sterile tables and ensure steps are taken to reduce microbial fallout.
	16.07	Correlate anesthesia monitoring devices, patient complications and interventions with maintaining patient homeostasis.
	16.08	Demonstrate the principles of safe positioning, application of safety devices, and restraining patient for surgery correlating the prevention of potential complications with the need for patient stability.
	16.09	Demonstrate the selection of the appropriate solution and preparation of the operative site for the surgical procedure.
	16.10	Perform steps for Foley catheter insertion and connection to drainage.
	16.11	Describe the safe usage of critical instruments, equipment and supplies utilized intraoperatively including the electrosurgical unit, Lasers, Ultrasonic equipment, endoscopy equipment, robotics, insufflators, light sources, microscopes, power tools, suction, tourniquets, etc.
	16.12	Demonstrate correctly the connection and operation of essential instruments, equipment and supplies for the surgical procedure.
	16.13	Demonstrate correct mathematical skills related to dosage available versus dosage needing when drawing up or administering medications.
	16.14	Demonstrate correctly the techniques for injection of local anesthetics.
	16.15	Demonstrate knowledge of wound management techniques, including suturing techniques in the operating room, perioperative care of special needs patients, and perioperative assessment of the skin.
	16.16	Demonstrate applicable wound management principles including the placement and security of catheters, wound drainage systems, sterile dressings and cast applications.
	16.17	Discuss relevant and unique factors regarding postoperative care specific to the procedure.
17.0	Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.--The student will be able to:	
	17.01	Analyze the terminology the basic concepts of pharmacology and drug administration including pharmacokinetics and pharmacodynamics.
	17.02	Describe pharmacological concepts relative to the administration of all anesthesia methods, agents, and techniques including the role of the anesthetist, the first assistant and the circulator during induction and extubation.
	17.03	Identify the classification, actions, effects and precautions of common drugs used at the field, and within the surgical environment.
	17.04	Apply knowledge of the pharmacologic agents used in the treatment of the surgical patient.

17.05	Describe potential anesthesia and operative complications and interventions for each.
17.06	Demonstrate the application of the six rights of medication administration.
17.07	Identify the correct medication form and method of application.
17.08	Analyze and assemble correctly all medication supplies, for each drug to be used on the sterile field.
17.09	Pour or receive, measure, prepare and manage sterile solutions accurately within the sterile field.
17.10	Demonstrate the appropriate methods of transferring and accepting medications onto the sterile field.
17.11	Label properly all fluids and medications used within the sterile field.
17.12	Demonstrates ability to correctly calculate common medication conversions and dosages.
17.13	Apply correct unit of measure for each medication.
17.14	Demonstrates preparation and passing of medication mixtures using ratio and proportions correctly.
17.15	Maintains an accurate account of the amount of each medication and/or solution used at the field and notifies circulator as appropriate to the situation to ensure accurate documentation.
17.16	Describe the adverse effects of local and topical anesthetics.
18.0	Demonstrate knowledge of the basic surgical skills necessary to function safely and effectively.--The student will be able to:
18.01	Demonstrate an understanding of advanced anatomy, physiology, the disease processes and the relationship of the processes to the specific types of pathologies according to body systems.
18.02	Correlate the preoperative diagnosis, diagnostic interventions, common complications, and operative pathophysiology relative to specific surgical procedures.
18.03	Correlate the preoperative diagnosis, operative anatomy, physiology and pathology, usual incision, wound closure techniques, medications utilized, common complications, and the usual sequence as related to specific surgical procedures.
18.04	Select and verify required instrumentation, equipment and supplies, including any implants needed for specific surgical procedures using core knowledge and the applicable surgeon preference/procedure cards.
18.05	Demonstrate an understanding of diagnostic images as related to surgical anatomy.
18.06	Demonstrate application of aseptic and sterile technique principles including the appropriate corrective action for common breaks in sterile technique that may occur.
18.07	Demonstrate the surgical scrub and donning of sterile gown and gloves.
18.08	Demonstrate the principles of sterile draping.
18.09	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).

	18.10	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).
	18.11	Prepare, pass, utilize, and monitor sharps, sutures, ligatures, ties and staples correctly.
	18.12	Prepare, pass, utilize, and monitor amount given for medications and solutions utilized on the sterile field.
	18.13	Demonstrate assisted gowning/gloving for others.
	18.14	Participate in the surgical time out to prevent wrong site surgery and delays in the surgical procedure
	18.15	Select, prepare, pass, and utilize instruments, equipment, tissue replacement materials, implants and supplies efficiently.
	18.16	Monitor the surgical site regarding counted items, stage of surgery, tissue appearance and patient's body fluids, e.g. blanching, desiccation, color of blood, blood loss, bile leaks, ascites, etc.
	18.17	Demonstrate correctly the initiation and completion of counts regarding sponges, sharps, instruments and miscellaneous items used within the patient's wound to prevent foreign body retention.
	18.18	Describe the types of incisions, methods of wound closure, and mechanisms of wound management.
	18.19	Describe the usual sequence of a common surgical procedure. (i.e. incision into the anatomy, dissection of the anatomy, operative steps of the procedure, and closing of the anatomy.)
	18.20	Selects the appropriate instrument, equipment, or supply for each step of the procedure.
	18.21	Demonstrate ability to prepare, validate, handle and preserve specimen accurately for laboratory analysis.
	18.22	Demonstrates knowledge of and assists with surgical procedures while functioning in the roles of scrub and assistant circulator.
	18.23	Demonstrate effective perioperative case management ensuring cost control and time/motion economy methods are utilized to maximize the efficiency of the OR team.
19.0	Demonstrate competencies in the core components of the surgical first assistant related to knowledge and skills.-- The student will be able to:	
	19.01	Prioritize care or actions to be taken in a given circumstance to expedite the operative procedure or emergency situation.
	19.02	Describe preoperative diagnosis, common complications, operative pathophysiology and postoperative care related to the specific surgical procedures performed.
	19.03	Analyze common patient assessments including skin and chart review relating relevant diagnostic and monitoring results to the surgeon as applicable to the surgical specialty.
	19.04	Demonstrate preoperative preparation of the patient to facilitate proper patient care including but not limited to positioning, application of tourniquet, surgical skin preparation, catherization, draping, and sterile setup preparation.
	19.05	Demonstrate and describe types of incisions and insertion of trocars.
	19.06	Identify types of tissue, organs, and gross anatomical structures correctly during surgical procedures.
	19.07	Demonstrate appropriate tissue handling techniques including the care of the surgical specimens.

	19.08	Provide appropriate exposure and visualization of the operative field for the surgeon.
	19.09	Describe the appropriate sequence for common surgical procedures.
	19.10	Utilize appropriate techniques to assist with hemostasis.
	19.11	Demonstrate appropriate safe surgical techniques when the case involves either thermal, radiological, laparoscopic, environmental, or other known surgical hazard.
	19.12	Participate in volume replacement or autotransfusion techniques and medication administration as appropriate.
	19.13	Select appropriate instruments and supplies for the type of tissue.
	19.14	Demonstrate competence with technology, the use of instruments, equipment supplies and medications for the surgical procedure.
	19.15	Use surgical instruments skillfully in ways consistent with their design and purpose.
	19.16	Utilize appropriate techniques to assist with the closure of body planes.
	19.17	Select and apply appropriate wound dressings.
	19.18	Assist surgeon in securing drainage systems to tissue.
	19.19	Evaluate patient and report appropriately any abnormal condition found post-op related to positioning.
	19.20	Assist surgeon with postoperative care of the patient to facilitate proper patient care.
	19.21	Demonstrate appropriate response to emergency situations including respiratory/cardiac arrest situations, sudden hypoxia, hemorrhage, shock, surgical misadventures, contamination, perforation of viscous or cavity, critical equipment failure, and exposure, retraction and compression injuries.
	19.22	Facilitate the continuity of care within and across the healthcare settings to access available resources and services.
20.0	Demonstrate competencies in the core components of the surgical first assistant related to legal and ethical responsibilities. --The student will be able to:	
	20.01	State methods, standards and aids that assist a surgical first assistant with interpreting and following legal responsibilities.
	20.02	Describe the importance of maintaining credentials and following the appropriate credentialing policy in accordance with hospital policy and appropriate laws and regulations.
	20.03	Explain the job requirements.
	20.04	Describe the key elements related to the development of a surgical conscience.
	20.05	Demonstrate an understanding of the legal, ethical, moral, and professional responsibilities of working as a surgical assistant, and the professional skills necessary to fulfill the role.
	20.06	Provide health care within the ethical/legal framework of the job description including role responsibilities and limitations.

20.07 Describe the principles of problem solving and confidentiality in ethical decision making and risk management.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

In a simulated surgical environment, students practice preparing, setting up and maintaining a sterile field, sterilization and disinfection procedures, preparation of supplies and equipment for surgery, and patient preparation.

Clinical learning experiences in an operating room and related areas are an integral part of this program.

The Human Patient Simulator (HPS) or other accepted simulation scenarios may be used for a limited number of clinical hours. A low teacher-student ratio in the lab and clinical area is strongly recommended. The recommended maximum ratio is 1:8.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

The Surgical First Assistant Core Curriculum should be taught by qualified staff as outlined in the most recent approved CAAHEP (Commission on Accreditation on Allied Health Education Programs) accreditation standards and guidelines.

Entering students who have successfully completed the program 0351090905 or 0351090904, Surgical Technology or are currently Nationally Certified as a CST (Certified Surgical Technologist) or SA-C (Surgical Assistant-Certified) should be given appropriate advanced standing.

After successful completion of an approved and accredited surgical first assistant program, students are eligible to take the National Board of Surgical Technology and Surgical Assisting First Assistant exam as approved.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Diagnostic Medical Sonography Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351091005
Program Type	College Credit Certificate (CCC)
Program Length	47 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2032 Diagnostic Medical Sonographers

Purpose

This certificate program is part of the Diagnostic Medical Sonography Technology AS degree program (1351091004).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as diagnostic medical sonographers, SOC Code 29-2032, or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to anatomy, physiology and pathology of the abdominal, pelvic, and urogenital structures; physics; instrumentation; equipment standards; biological effect of ultrasound; patient care; clinical medicine; applications and limitations of ultra-sound; related diagnostic procedures; image evaluation; administration; first aid and cardiopulmonary resuscitation; employability skills; leadership and human relations skills; health and safety.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate an understanding of the role and responsibilities of the sonographer in regards to ultrasound imaging and patient care.
13.0 Demonstrate an awareness of the basic principles of ultrasound physics, emphasizing practical relationships of physics to optimizing images for more accurate diagnosis.
14.0 Demonstrate knowledge of the basic principles of instrumentation common to the field of ultrasound
15.0 Demonstrate knowledge of the principles of Doppler.
16.0 Apply knowledge gained in instrumentation lecture as it applied to various ultrasound systems in the clinical setting.
17.0 Apply knowledge of the anatomy and scanning techniques related to retroperitoneal structures and upper abdominal organs and systems.
18.0 Apply knowledge of the anatomy and scanning techniques related to superficial structures.
19.0 Apply knowledge of anatomy, pathology, and scanning techniques to the urinary system and adrenal glands.
20.0 Apply knowledge of anatomy, pathology, and scanning techniques used in Sonography of the female pelvis.
21.0 Apply knowledge of anatomy, pathology and scanning techniques related to obstetrics.
22.0 Develop a continuous awareness of the disease processes.
23.0 Apply accumulated knowledge to the process of creating diagnostic sonograms.
24.0 Apply skills needed to complete diagnostic images of high quality from a variety of scanning units.

Florida Department of Education
Student Performance Standards

Program Title: **Diagnostic Medical Sonography Specialist**
CIP Number: **0351091005**
Program Length: **47 credit hours**
SOC Code(s): **29-2032**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Diagnostic Medical Sonography Technology (New) AS degree program (1351091004). At the completion of this program, the student will be able to:	
Diagnostic Medical Sonography Specialist: The intended outcomes complete the occupational completion point of Diagnostic Medical Sonography Specialist.	
12.0	Demonstrate an understanding of the role and responsibilities of the sonographer in regards to ultrasound imaging and patient care –The student will be able to:
12.01	Explain the role of the sonographer.
12.02	Describe the relationship of ultrasound to other imaging modalities.
12.03	Describe and explain the proper uses of orientation and standard labeling of ultrasound images.
12.04	Explain the basic concepts of ultrasound equipment available and demonstrate safety in their use and basic techniques of scanning.
12.05	Explain and demonstrate the criteria for image evaluation and specifically of special sonographic parameters.
12.06	Demonstrate proper body mechanics to avoid Work Related Musculoskeletal Disorders when performing sonographic examinations.
12.07	Describe special problems encountered and methods related to medical ethics and law in Sonography.
12.08	Describe the organizational structure common to most hospitals with special emphasis placed on the role of the ultrasound department.
12.09	Describe the relationship of the sonographer to the patients and their special needs.

	12.10 Demonstrate professional communication skills required on a daily basis in the health care setting.
	12.11 Explain and demonstrate the methods of patient preparation and care before and during a sonogram.
	12.12 Demonstrate proper body mechanics when transporting and assisting patients.
	12.13 Discuss current trends in sonographic technology and techniques.
13.0	Demonstrate an awareness of the basic principles of ultrasound physics, emphasizing practical relationships of physics to optimizing images for more accurate diagnosis–The student will be able to:
	13.01 Explain what sound is and its characteristics.
	13.02 Compare the difference between pulsed and continuous wave ultrasound.
	13.03 Explain amplitude and intensity of sound as it applies to Sonography.
	13.04 Describe the causes and effects of attenuation and acoustic impedance on ultrasound.
	13.05 Identify the causes and effects of incidence, scattering and refraction of ultrasound.
	13.06 Explain the Doppler Effect as it relates to ultrasound.
	13.07 Describe the factors of attenuation versus depth penetration of ultrasound in human tissue.
	13.08 Identify resolution and controlling factors of resolution as applied to Sonography.
	13.09 Discuss and demonstrate the basic principles governing sound and sound interaction in various types of tissue.
	13.10 Describe and demonstrate the conditions affecting sound transmission such as attenuating factors.
	13.11 Relate mathematical formulas to the interaction of sound with various mediums.
	13.12 Describe resolution and its effect on the final image.
	13.13 Describe and demonstrate the factors that control and determine axial, elevational and lateral resolution.
14.0	Demonstrate knowledge of the basic principles of instrumentation common to the field of ultrasound–The student will be able to:
	14.01 Describe piezoelectric effects.
	14.02 Describe transducer construction.
	14.03 Discuss historical perspectives related to the development of the ultrasound system.
	14.04 Explain and describe how signal processing affects image production and presentations.

	14.05 Discuss basic system operation in the form of block diagrams for real-time and Doppler image production.
	14.06 Describe the purpose and use of typical controls located on ultrasound systems.
	14.07 Identify methods of determining and assuring quality control both sonographically and photographically.
	14.08 Discuss common processing techniques including but not limited to harmonics, persistence, spatial compounding, panoramic imaging, and RES.
	14.09 Discuss causes, detection and control of factors that may create biologic effects in human tissue with insonation at the diagnostic medical sonography exposure level.
15.0	Demonstrate knowledge of the principles of Doppler –The student will be able to:
	15.01 Explain the general principles of Doppler techniques and the Doppler formula.
	15.02 Describe how pulse wave Doppler is processed and displayed.
	15.03 Describe how color-flow Doppler is processed and displayed.
	15.04 Describe how power Doppler is processed and displayed.
	15.05 Identify normal and abnormal Doppler wave forms.
	15.06 Discuss the advantages and disadvantages of the various Doppler methods.
	15.07 Describe the purpose and use of typical controls used to optimize Doppler acquisition and display.
	15.08 Demonstrate skills required on a daily basis in the typical Sonography setting for obtaining and displaying Doppler.
16.0	Apply knowledge gained in instrumentation lecture as it applied to various ultrasound systems in the clinical setting–The student will be able to:
	16.01 Utilize patient information systems.
	16.02 Demonstrate appropriate transducer selection for specific sonographic application.
	16.03 Utilize amplification in all its forms to produce a diagnostic quality sonogram.
	16.04 Utilize power to produce a diagnostic quality sonogram while maintaining the ALARA principle.
	16.05 Utilize the various forms of processing to produce a diagnostic quality sonogram.
	16.06 Utilize the various types of scanning techniques and patient positioning required to produce diagnostic quality sonograms.
	16.07 To explain and recognize typical artifacts as found in sonographic imaging.
	16.08 Utilize test objects and phantoms.

17.0	Apply knowledge of the anatomy and scanning techniques related to retroperitoneal structures and upper abdominal organs and systems–The student will be able to:
17.01	Identify gross abdominal structures as demonstrated by ultrasound such as: the liver, gall bladder, aorta, inferior vena cava, stomach, pancreas, bowel, spleen, lymph nodes, retroperitoneum, and peritoneal cavity.
17.02	Identify the gross upper abdominal organs in two planes.
17.03	Identify the gross retroperitoneal organs, bowel and peritoneum in two planes.
17.04	Explain the physiology of the upper abdominal organs and the related laboratory results.
17.05	Explain the physiology of the retroperitoneal organs, bowel and peritoneum.
17.06	Explain and demonstrate the protocol for sonographic examination of the upper abdominal organs.
17.07	Explain and demonstrate the protocol for sonographic examination of the retroperitoneal organs, bowel and peritoneum.
17.08	Explain the common pathologies related to the upper abdomen including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
17.09	Explain the common pathologies related to the retroperitoneal organs, bowel and peritoneum including the sonographic appearance of these pathologies and corresponding lab values, patient history and symptoms.
17.10	Explain screen orientation and its relationship to the upper abdomen and retroperitoneal structures.
17.11	Describe and perform procedures of a complete ultrasound examination of the upper abdomen from preparation to reporting.
17.12	Describe and perform procedures of a complete ultrasound examination of the bowel, lymph nodes, retroperitoneum, and peritoneal cavity from preparation to reporting.
18.0	Apply knowledge of the anatomy and scanning techniques related to superficial structures–The student will be able to:
18.01	Identify gross superficial structures as demonstrated by ultrasound including but not limited to: the thyroid, scrotum (testicular), abdominal wall, neck, breast, prostate and musculoskeletal.
18.02	Identify superficial structures in two planes.
18.03	Explain the physiology of the superficial structures and the related laboratory results.
18.04	Explain and demonstrate the protocol for the sonographic examination of superficial structures.
18.05	Explain the common pathology related to the superficial structures including the sonographic appearance of these pathologies and corresponding lab values, patient history and symptoms.
18.06	Describe and perform procedures of a complete ultrasound examination of each of the superficial structures from preparation to reporting.
19.0	Apply knowledge of anatomy, pathology, and scanning techniques to the urinary system and adrenal glands–The student will be able to:
19.01	Identify the gross structures of the urinary system as demonstrated by ultrasound including but not limited to the kidney, ureters and urinary bladder.

19.02	Identify the gross organs of the urinary system in two planes.
19.03	Identify the gross adrenals in two planes.
19.04	Explain the physiology of the urinary system organs and the related laboratory results.
19.05	Explain the physiology of the adrenals and the related laboratory results.
19.06	Explain and demonstrate the protocol for sonographic examination of the urinary system organs.
19.07	Explain and demonstrate the protocol for sonographic examination of the adrenals.
19.08	Explain the common pathologies related to the urinary system organs including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
19.09	Explain the common pathologies related to the adrenals including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
19.10	Explain screen orientation and its relationship to the urinary system structures and the adrenals.
19.11	Describe and perform procedures of a complete ultrasound examination of the urinary system from preparation to reporting.
19.12	Describe and perform procedures of a complete ultrasound examination of the adrenals from preparation to reporting.
20.0	Apply knowledge of anatomy, pathology, and scanning techniques used in Sonography of the female pelvis–The student will be able to:
20.01	Identify the gross female pelvic structures as demonstrated by ultrasound including but not limited to the female reproductive organs and urinary bladder.
20.02	Identify the gross female pelvic organs in two planes.
20.03	Explain the physiology of the female pelvic organs and the related laboratory results.
20.04	Explain and demonstrate the protocol for sonographic examination of the female pelvic organs.
20.05	Explain the common pathologies related to the female pelvis including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
20.06	Explain screen orientation and its relationship to the female pelvic structures.
20.07	Describe and perform procedures of a complete ultrasound examination of the female pelvis from preparation to reporting.
20.08	Explain the protocol for both transabdominal and transvaginal pelvic ultrasound.
21.0	Apply knowledge of anatomy, pathology and scanning techniques related to obstetrics–The student will be able to:
21.01	Identify gross obstetrical structures as demonstrated by ultrasound including but not limited to the uterus and adnexa in both the pregnant and postpartum state.
21.02	Discuss anatomy and physiology of the various stages of fetal development as related to ultrasound.

	21.03	Discuss anatomy and physiology of the placenta at all stages of development.
	21.04	Describe the basic stages of embryology and sonographic relationships.
	21.05	Describe events occurring in the first trimester and their relationship to ultrasound.
	21.06	Explain the physiology of organs related to obstetrics.
	21.07	Explain and demonstrate the protocol for sonographic examinations used in obstetrics.
	21.08	Explain the common pathologies related to obstetrics including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
	21.09	Explain screen orientation and its relationship to the organs related to obstetrics.
	21.10	Describe methods for determining gestational age and fetal growth by ultrasound using appropriate biometrics.
	21.11	Explain the effects of specific diseases common to the gestational period.
	21.12	Compare normal and abnormal states of embryology in the human as demonstrated by ultrasound.
	21.13	Perform a biophysical profile to determine fetal well-being.
	21.14	Compare the normal and pathologic appearance of the fetus and the fetal environment.
	21.15	Demonstrate special techniques of ultrasound scanning and collateral processes during pregnancy.
	21.16	Explain the protocol and AIUM guidelines for obstetrical ultrasound.
	21.17	Explain and demonstrate the special safety precautions required during an obstetrical ultrasound with a focus on AIUM guidelines.
	21.18	Describe and perform procedures of a complete obstetrical ultrasound examination from preparation to reporting.
22.0	Develop a continuous awareness of the disease processes–The student will be able to:	
	22.01	Discuss basic concepts of the causes of disease.
	22.02	Discuss common urogenital pathology.
	22.03	Discuss gastrointestinal diseases.
	22.04	Discuss common pathology found in obstetrics and gynocology.
	22.05	Discuss common pathology found in the cardiovascular system.
	22.06	Discuss common pathology found in hepatobiliary system to include: liver, gallbladder, pancreas and spleen.

	22.07	Discuss post-surgical changes and its effects on images.
23.0	Apply accumulated knowledge to the process of creating diagnostic sonograms–The student will be able to:	
	23.01	Complete in all aspects a diagnostic sonogram with emphasis on:
		23.01.01 patient identification
		23.01.02 patient interaction
		23.01.03 professionalism
		23.01.04 creation of an optimized sonogram
		23.01.05 appropriate image annotation
		23.01.06 safety
		23.01.07 recognition of anatomy, both normal and pathologic.
	23.02	Complete routine documentation associated with a typical ultrasound department.
	23.03	Present a sonographic exam to the interpreting physician in completed form.
24.0	Apply skills needed to complete diagnostic images of high quality from a variety of scanning units–The student will be able to:	
	24.01	Perform complete and diagnostic examinations of the abdomen, superficial structures, pelvis and obstetrical patient using real-time and Doppler techniques using a variety of ultrasound machines.
	24.02	Present completed examinations in detail with justification of all techniques, methods and procedures used to obtain data.
	24.03	Identify gross pathology of the abdomen, pelvis and obstetrical patient, both on sonograms and related imaging modalities.
	24.04	Perform all preliminary procedures leading to actual examination by Sonography and all procedures necessary post examination.
	24.05	Demonstrate skills needed to relate with tact and diplomacy with patients, physicians, nurses, other imaging personnel and the general hospital population.
	24.06	Demonstrate those characteristics that reflect the high degree of professionalism associated with the field of ultrasound.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program should meet the requirements of:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
361 Park St.
Clearwater, FL 33756
(727) 210-2350

Written clinical affiliation agreements must be maintained with each health care facility. Health care facilities must be accredited by The Joint Commission.

The designation of PSV-C requires that the student have an associate degree in a related field of study (i.e. radiologic technology, nursing-RN, etc.). Upon the successful completion of the program the student will receive a Diagnostic Medical Sonography Specialist Certificate.

Students completing this program may apply to take one or both of the national registry examinations to obtain certification, for further information contact:

American Registry of Diagnostic
Medical Sonographers (ARDMS)
51 Monroe St. Plaza East 1
Rockville, Maryland 20850-2400
(301) 738-8401

Or

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612) 687-0048

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Endoscopic Technician**
Career Cluster: **Health Science**

CCC	
CIP Number	0351099902
Program Type	College Credit Certificate (CCC)
Program Length	24 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Purpose

This certificate program is part of the Surgical Services AS degree program (1351000002).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as an Endoscopic Technician (SOC31-9099).

The content includes but is not limited to communication and interpersonal skills, legal and ethical responsibilities, anatomy, physiology, pathophysiology, microbiology, aseptic techniques, patient care endoscopy procedures, endoscopy procedures, patient safety, use and care of equipment and supplies, CPR, Heartsaver, employability skills, basic computer literacy and endoscopic technician duties such as disinfection and processing endoscopic instruments, completing the setup and assisting during the endoscopy procedures, assisting with patient positioning and splinting as indicated, transportation of patients, and manage the endoscopy accessories, related supplies and equipment.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate language arts knowledge and skills.
13.0 Solve problems using critical thinking skills, creativity and innovation.
14.0 Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.
15.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
16.0 Demonstrate central supply technician skills.
17.0 Demonstrate competencies in the core components of the endoscopy technician related to communication and interpersonal Skills.
18.0 Demonstrate an understanding of the basic sciences related to endoscopy.
19.0 Describe and practice safety measures in the endoscopy environment.
20.0 Perform patient care endoscopy procedures related to the endoscopy environment and describe methods for meeting patient's needs.
21.0 Demonstrate knowledge of the basic endoscopy skills necessary to function safely and effectively.
22.0 Demonstrate competencies in the core components of the endoscopy technician related to knowledge and skills.
23.0 Demonstrate competencies in the core components of the endoscopy technician related to legal and ethical responsibilities.

Florida Department of Education
Student Performance Standards

Program Title: **Endoscopic Technician**
CIP Number: **0351099902**
Program Length: **24 credit hours**
SOC Code(s): **31-9099**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of Surgical Services AS degree program (1351000002). At the completion of this program, the student will be able to:	
Students completing intended outcomes 12-23, in addition to the health careers core, will meet the requirements of the Endoscopic Technician-CCC (SOC Code 31-9099).	
12.0	Demonstrate language arts knowledge and skills – The students will be able to:
	12.01 Locate, comprehend and evaluate key elements of oral and written information.
	12.02 Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.
	12.03 Present information formally and informally for specific purposes and audiences.
13.0	Solve problems using critical thinking skills, creativity and innovation – The students will be able to:
	13.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.
	13.02 Employ critical thinking and interpersonal skills to resolve conflicts.
	13.03 Identify and document workplace performance goals and monitor progress toward those goals.
	13.04 Conduct technical research to gather information necessary for decision-making.
14.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment – The students will be able to:

	14.01 Describe the nature and types of business organizations.
	14.02 Explain the effect of key organizational systems on performance and quality.
	14.03 List and describe quality control systems and/or practices common to the workplace.
	14.04 Explain the impact of the global economy on business organizations.
15.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives. – The students will be able to:
	15.01 Employ leadership skills to accomplish organizational goals and objectives.
	15.02 Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	15.03 Conduct and participate in meetings to accomplish work tasks.
	15.04 Employ mentoring skills to inspire and teach others.
	15.05 Analyze attributes and attitudes of an effective leader.
	15.06 Recognize factors and situations that may lead to conflict.
	15.07 Demonstrate effective techniques for managing team conflict.
16.0	Demonstrate central supply technician skills. -- The student will be able to:
	16.01 Apply the principles of medical and sterile asepsis to the processing and use of instruments, equipment and supplies.
	16.02 Apply infection control techniques following Center for Disease Control (CDC) guidelines.
	16.03 Inspect equipment and supplies for condition and quantity.
	16.04 Identify principles and demonstrate techniques of disinfection and sterilization.
	16.05 Decontaminate instruments, equipment and environment.
	16.06 Identify/correct and/or report package integrity.
	16.07 Replenish supplies and equipment.
	16.08 Identify instruments, equipment and supplies for any procedure.
	16.09 Demonstrate the ability to label, package goods and supplies as required.
	16.10 Demonstrate various storage, case cart preparation and supply distribution methods for instruments, equipment and supplies.

	16.11 Describe the types and use of inventory control systems.
17.0	Demonstrate competencies in the core components of the endoscopy technician related to communication and interpersonal Skills -- The student will be able to:
	17.01 Use various forms of communication in the role of Endoscopy Technician to communicate relevant, accurate and complete information in a concise and clear manner.
	17.02 Collaborate with the patient, physician, and other members of the Healthcare team to assess, plan, implement, and evaluate the patient's endoscopy care to promote positive outcomes.
	17.03 Demonstrate proper use of communication technology including but not limited to intercoms, computers, written documentation logs and paging systems.
	17.04 Demonstrate patient interviewing techniques.
	17.05 Facilitate teamwork as a patient advocate and assistant to the physician.
	17.06 Demonstrate competency regarding reporting and documentation responsibilities.
18.0	Demonstrate an understanding of the basic sciences related to endoscopy--The student will be able to:
	18.01 Apply knowledge of the microbial environment to the care of the patient.
	18.02 Relate anatomy, physiology and pathophysiology, to endoscopy procedures.
	18.03 Apply the principles of medical and surgical asepsis to endoscopy procedures performed.
	18.04 Discuss electricity, computers, and robotics as they relate to endoscopy procedures performed.
	18.05 Apply knowledge of the pharmacologic agents used in the treatment of the endoscopy patient.
19.0	Describe and practice safety measures in the endoscopy environment--The student will be able to:
	19.01 Inspect emergency equipment and supplies for condition and quantity.
	19.02 Implement appropriate Joint Commission patient safety goals.
	19.03 Apply knowledge of endoscopy hazards to safe patient care.
20.0	Perform patient care endoscopy procedures related to the endoscopy environment and describe methods for meeting patient's needs--The student will be able to:
	20.01 Perform safe patient transfer/transportation techniques used in the endoscopy unit setting.
	20.02 Apply the principles of safe positioning and restraining patient for endoscopy procedures.
	20.03 Apply the principles of safe usage of the electrosurgical unit, laser, endoscopes, and other equipment utilized.
	20.04 Identify the roles of the members of the endoscopy team during each phase of endoscopy procedures.

	20.05	Assist the registered nurse and physician with the care of the endoscopy patient.
	20.06	Apply the principles of patient assessment and preparation.
	20.07	Describe the perioperative techniques, methods and management of anesthesia related to the type of endoscopy procedure.
	20.08	Apply knowledge of endoscopy assisting techniques such as splinting and assisting with specimens.
21.0	Demonstrate knowledge of the basic endoscopy skills necessary to function safely and effectively--The student will be able to:	
	21.01	Demonstrate an understanding of the gastrointestinal system, respiratory system and relevant disease processes.
	21.02	Select instruments, equipment and supplies for endoscopy procedures using physician preference/procedure cards.
	21.03	Measure and pour sterile solutions and medications.
	21.04	Differentiates appropriately the use of medical aseptic and/or sterile technique regarding the donning of sterile gloves and the use of instruments, supplies and equipment for the scenario given.
	21.05	Describes the principles of positioning, draping patient, passing instruments, monitoring field and manipulation of scope.
	21.06	Demonstrates the preparation and/or updates procedure cards to meet a specific surgeon's preferences correctly.
22.0	Demonstrate competencies in the core components of the endoscopy technician related to knowledge and skills -- The student will be able to:	
	22.01	Prioritize care or actions to be taken in a given circumstance to expedite the procedure or emergency situation.
	22.02	Describe preoperative diagnosis, common complications, and operative pathophysiology related to the specific endoscopy procedures performed.
	22.03	Describe and apply common patient diagnostic and monitoring devices as applicable to the endoscopy specialty.
	22.04	Assist physician and/or healthcare team with preoperative preparation of the patient to facilitate proper patient care including but not limited to positioning, draping, and setup preparation.
	22.05	Identify gross anatomical structures correctly during endoscopy procedures.
	22.06	Demonstrate appropriate tissue handling techniques including the care of the endoscopy specimens.
	22.07	Describe the appropriate sequence for common endoscopy procedures.
	22.08	Utilize appropriate techniques to assist with facilitating visualization.
	22.09	Demonstrate appropriate safe endoscopy techniques when the case involves either thermal, radiological, laparoscopic, environmental, or other known endoscopy hazard.
	22.10	Select appropriate instruments, equipment and supplies for the procedure.
	22.11	Demonstrate competence with technology including the use of instruments, equipment and supplies for the endoscopy procedure.

	22.12	Assist the registered nurse and physician with postoperative care of the patient to facilitate proper patient care.
	22.13	Demonstrate appropriate response to emergency situations including respiratory/cardiac arrest situations, sudden hypoxia, hemorrhage, shock, endoscopy misadventures, contamination, perforation of viscous or cavity, critical equipment failure, and injury.
	22.14	Facilitate the continuity of care within the healthcare setting to access available resources and services.
23.0	Demonstrate competencies in the core components of the endoscopy technician related to legal and ethical responsibilities --The student will be able to:	
	23.01	State methods, standards and aids that assist an Endoscopy Technician with interpreting and following legal responsibilities.
	23.02	Explain the job requirements.
	23.03	Demonstrate an understanding of the legal, ethical, moral, and professional responsibilities of working as an endoscopy technician, and the professional skills necessary to fulfill the role.
	23.04	Provide health care within the ethical/legal framework of the job description including role responsibilities and limitations.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

The Human Patient Simulator (HPS) or other accepted simulation scenarios may be used for a limited number of clinical hours. A low teacher-student ratio in the lab and clinical area is strongly recommended. The recommended maximum ratio is 1:8.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health

The Endoscopy Technician Core Curriculum should be taught by qualified staff including but not limited to physicians, registered nurses, certified endoscopic technicians and experienced endoscopic technicians.

Entering students who have successfully completed the program 51-3902, Nursing Assistant or currently Nationally Certified as a CNA (Certified Nursing Assistant), should be given appropriate advanced standing.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Clinical Laboratory Technician-ATD**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	CC	PSAV
Program Number	N/A	H170600
CIP Number	0351100401	0351100404
Grade Level	Applied Technology Diploma (ATD)	30, 31
Standard Length	40 credit hours	1515 clock hours
CTSO	HOSA: Future Health Professionals	
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 31-9097 Phlebotomists 29-2012 Medical and Clinical Laboratory Technicians	
Basic Skills Level:	Mathematics 10 Reading: 11 Language: 11	

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to didactic and laboratory performance of routine procedures in hematology, immunology, urinalysis, immunohematology, microbiology and clinical chemistry including the use of common laboratory instruments. A clinical component is a necessary element of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is an Applied Technology Diploma (ATD) program that is part of a technical degree program, is less than 60 credit hours, and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit. A public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college.

PSAV Program

When offered at the district level, this program is a planned sequence of instruction consisting of 3 occupational completion points and the courses as shown below.

OCP	Course Number	Course Title	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	90 hours	31-9099
B	MEA0520	Phlebotomist	75 hours	31-9097
C	MLT0009	Introduction to Medical laboratory Technology	90 hours	29-2012
	MLT0220	Urinalysis and Body Fluids	135 hours	
	MLT0335	Hematology and Hemostasis	280 hours	
	MLT0505	Immunology	60 hours	
	MLT0640	Clinical Chemistry	255 hours	
	MLT0520	Immunohematology	255 hours	
	MLT0450	Microbiology and Parasitology	275 hours	

College Credit

When offered at the college level, this ATD program is part of the Medical Laboratory Technology AS program (1351100405) and has a program length of 40 credits.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate accepted professional, communication and interpersonal skills.
13.0 Discuss phlebotomy in relation to the health care setting.
14.0 Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
15.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
16.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
17.0 Practice infection control following standard precautions.
18.0 Practice accepted procedures of transporting, accessioning and processing specimens.
19.0 Practice quality assurance and safety.
20.0 Demonstrate knowledge and use of basic laboratory equipment and techniques.
21.0 Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived).
22.0 Demonstrate basic knowledge of and perform Point of Care (POC) Testing using CLIA approved Waived instrumentation.
23.0 Discuss the general responsibilities and functions encountered by a medical technician.
24.0 Apply quality assurance principles and safety protocols.
25.0 Demonstrate knowledge of the operation of computer systems.
26.0 Demonstrate an understanding of the basic principles of molecular diagnostics.
27.0 Demonstrate knowledge of urinalysis and body fluids principles and procedures.
28.0 Demonstrate knowledge of hematological principles and procedures.
29.0 Demonstrate knowledge of hemostasis and related diagnostic principles and procedures.
30.0 Demonstrate knowledge of immunology principles and procedures.
31.0 Demonstrate knowledge of clinical chemistry principles and procedures.
32.0 Demonstrate knowledge of immunohematology principles and procedures.
33.0 Demonstrate knowledge of microbiological principles and procedures.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Clinical Laboratory Technician-ATD**
PSAV Number: **H170600**

When this program is offered at the PSAV level, the following organization of courses, standards, and benchmarks apply.

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

PSAV Course Number: MEA0520
Occupational Completion Point: B
Phlebotomist – 75 Hours – SOC Code 31-9097

12.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:	
	12.01	Demonstrate the appropriate professional behavior of a phlebotomist.
	12.02	Explain to the patient the procedure to be used in specimen collection.
	12.03	Explain in detail the importance of identifying patients correctly when drawing blood.
	12.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
	12.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
	12.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
13.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:	
	13.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.

	13.02	Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.
	13.03	Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
14.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:	
	14.01	Describe and define major body systems with emphasis on the circulatory system.
	14.02	List and describe the main superficial veins used in performing venipuncture.
	14.03	Locate the most appropriate sites(s) for capillary and venipuncture.
	14.04	Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	14.05	Compare and contrast between serum and plasma as it relates to blood collection.
	14.06	Discuss hemostasis as it relates to blood collection.
15.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:	
	15.01	Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
	15.02	Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
	15.03	Identify and discuss proper use of supplies used in collecting micro-specimens.
	15.04	Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	15.05	Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	15.06	Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	15.07	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
16.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:	
	16.01	Follow approved procedure for completing a laboratory requisition form.
	16.02	Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	16.03	Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).
	16.04	Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.

16.05	List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
16.06	Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
16.07	Describe the correct order of draw.
16.08	Describe the use of barcoding systems used for specimen collection.
16.09	Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
16.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
16.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
16.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
16.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
16.14	Demonstrate the proper procedure for collecting blood cultures.
16.15	Discuss the effects of hemolysis and methods of prevention.
16.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
17.0	Practice infection control following standard precautions. – The student will be able to:
17.01	Define the term "nosocomial/ hospital acquired infection."
17.02	Describe and practice procedures for infection prevention including hand washing skills.
17.03	Discuss and perform transmission based precautions.
17.04	Identify potential routes of infection and their complications.
18.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
18.01	Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
18.02	Demonstrate knowledge of accessioning procedures.
18.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
18.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
19.0	Practice quality assurance and safety. – The student will be able to:

19.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.	
19.02	Demonstrate knowledge of and practice appropriate patient safety.	
19.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.	
19.04	Follow documentation procedures for work related accidents.	
19.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.	

PSAV Course Number: MLT0009 **Occupational Completion Point: C** **Introduction to Medical Laboratory Technology – 90 Hours – SOC Code 29-2012**		
20.0	Demonstrate knowledge and use of basic laboratory equipment and techniques. –The student will be able to:	
20.01	Identify the parts of the microscope and explain the function of each.	
20.02	Demonstrate the proper technique for operation of the microscope.	
20.03	Demonstrate use of standard laboratory equipment including glassware, pipettes and centrifuge.	
20.04	Perform basic laboratory math calculations.	
20.05	Apply principles of quality assurance to correct problems encountered in monitoring daily quality control.	
20.06	Evaluate laboratory findings and take necessary action to confirm or clarify results according to standard operation and procedure.	
20.07	Demonstrate knowledge of operation and principles of laboratory instruments.	
21.0	Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived)- The student will be able to	
21.01	Demonstrate the ability to interpret instructions of point of care testing including , but not limited to the following:	
21.04.01	Test principle	
21.04.01	Storage & Stability	
21.04.01	Internal vs. External Quality Control	
21.04.01	Specimen collection & preparation	
21.04.01	Directions for use	

	21.04.01	Interpretation of results
	21.04.01	Interfering substances
21.02	Demonstrate and discuss knowledge of lot numbers use and importance in regard to both kits and reagents.	
21.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.	
21.04	Explain the CLIA 88 classification of laboratory testing into waived, moderate, and highly complex including the personnel qualified to perform each.	
22.0	Demonstrate basic knowledge of and perform Point of Care(POC) Testing using CLIA approved Waived instrumentation- The student will be able to	
22.01	Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.	
22.02	Demonstrate competence in instrument maintenance.	
22.03	Demonstrate knowledge of quality control and calibrations involved within the POC instruments.	
22.04	Identify normal limits and associate abnormal results with disease or disorders.	
22.05	Discuss the significance of reporting critical values as it applies to Point of Care testing.	
23.0	Discuss the general responsibilities and functions encountered by a medical technician–The students will be able to:	
23.01	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions.	
23.02	Organize and communicate the results obtained by observation and experimentation.	
23.03	Demonstrate ability to evaluate and draw conclusions.	
23.04	Demonstrate ability to report observations in written or oral form.	
23.05	Discuss the licensure and certification requirements of the major classifications of clinical laboratory personnel.	
24.0	Apply quality assurance principles and safety protocols–The student will be able to:	
24.01	Recognize specimen suitability and determine need for rejection/recollection using factors described in clinical protocol.	
24.02	Describe special procedures for transporting and processing specimens.	
24.03	Describe clinical laboratory role in providing quality assurance in laboratory testing, reporting, and use and maintenance of equipment.	
24.04	Demonstrate required calibration procedures.	
24.05	Demonstrate and record quality control procedures required for the tests performed and recognize unacceptable results.	

	24.06 Report identified problems encountered in daily quality control according to standard operating procedures.
	24.07 Comply with current OSHA regulations regarding laboratory hazards.
25.0	Demonstrate knowledge of the operation of computer systems–The student will be able to:
	25.01 Discuss the role of computer systems in laboratory data management.
	25.02 Demonstrate knowledge of common computer terminology.
	25.03 Demonstrate entry level computer operations for specimen accessioning, data reporting, and quality control recording.
	25.04 Demonstrate entry level operational skills in the use of computer-interfaced analytical instrumentation.
26.0	Demonstrate an understanding of the basic principles of molecular diagnostics–The student will be able to:
	26.01 Discuss the principles and major steps of the polymerase chain reaction (PCR).
	26.02 Label the organelles and important parts of a eukaryotic animal cell.
	26.03 Describe the function of the organelles and important parts of a eukaryotic animal cell.
	26.04 Discuss the structure, function, and components of DNA and RNA.
	26.05 Define the key terms of molecular diagnostics.
	26.06 Understand the principles of molecular diagnostic testing.
	26.07 Compare the advantages and disadvantages of molecular techniques over traditional diagnostic tests for infectious diseases.
	26.08 List molecular tests associated with the identification of microorganisms.
	26.09 Identify the types of samples appropriate for molecular diagnostics.
PSAV Course Number: MLT0220 **Occupational Completion Point: C** **Urinalysis and Body Fluids – 135 Hours – SOC Code 29-2012**	
27.0	Demonstrate knowledge of urinalysis and body fluids principles and procedures–The student will be able to:
	27.01 Identify the components of the urinary system and explain their functions.
	27.02 Discuss diseases affecting the urinary system.
	27.03 Describe collection, transport and storage procedures for random and timed urine specimens.
	27.04 Discuss physical properties related to normal and abnormal components of the urine including related odors, color.

27.05	Discuss specific gravity techniques; calibration and use of the refractometer.
27.06	Perform dipstick or tablet (nonautomated) urinalysis techniques for chemical exam of the urine and interpret results
27.07	Demonstrate the proper use of urine strip readers.
27.08	Describe renal function tests.
27.09	Describe principles of and perform routine physical and chemical analyses on urine.
27.10	Prepare urine sediments and perform identification and quantitation of microscopic formed elements.
27.11	Correlate abnormal physical, chemical and microscopic urine results with associated pathological conditions.
27.12	Define and discuss the differences between transudates and exudates.
27.13	Discuss miscellaneous body fluids to include cerebral spinal, seminal and joint fluids.
27.14	Perform physical, chemical and microscopic evaluations of common body fluids.
PSAV Course Number: MLT0335: Occupational Completion Point: C Hematology and Hemostasis – 280 Hours – SOC Code 29-2012	
28.0	Demonstrate knowledge of hematological principles and procedures–The student will be able to:
28.01	Discuss the organs, cells and cellular interaction of the lymphoid, myeloid and reticuloendothelial systems.
28.02	Demonstrate an understanding of basic concepts of hematopoietic regulation, proliferation and cellular differentiation.
28.03	Identify the components of blood.
28.04	Discuss the function of formed elements of blood.
28.05	Demonstrate an understanding of the synthesis of normal and abnormal molecular structure of hemoglobin, common hemoglobinopathies and associated tests.
28.06	Describe normal hemoglobin-oxygen function using the Oxygen Dissociation Curve (ODC).
28.07	Discuss assessment and impact of preanalytical, analytical and post-analytical factors on hematology testing.
28.08	Discuss techniques of hematology related to calculation of red blood cell indices.
28.09	Discuss selected cytochemical staining and flowcytometry procedures.
28.10	Perform standard operational procedures to evaluate erythrocytes and their physical properties using patient blood and quality control samples.

28.11	State the review process of histogram/scatterplot/scattergram analysis.
28.12	Describe the categories used in a morphological classification of anemias.
28.13	Correlate automated hemogram parameter for red cell indices with peripheral exam of blood smear.
28.14	List the maturation sequence and identify distinguishing morphology for stages of developing white blood cells or leukocytes using stained smears, photographs, electronic images or other visual means of representation.
28.15	Discuss normal and abnormal hematology findings, reference ranges and associated diseases.
28.16	Demonstrate an understanding of,normal and abnormal white cell morphology, related disease states and associated tests.
28.17	Discuss the principles of and perform routine hematology procedures applying quality control procedures.as necessary.
28.18	Perform commonly used methods to evaluate leukocytes, correlate and verify automated cell counts with established criteria.
28.19	Identify the criteria used to classify nonmalignant leukocytic disorders, e.g. shift to the left, toxic granulation, Döhle bodies, etc.
28.20	Perform techniques of manual blood smear evaluation including white blood cell differential, red cell and platelet morphology.
28.21	Correlate peripheral blood evaluation with automated cell analysis.
28.22	Perform platelet counts on patient and control specimens using manual and automated techniques and correlate counts with peripheral smear.
29.0	Demonstrate knowledge of hemostasis and related diagnostic principles and procedures–The student will be able to:
29.01	Discuss and define the interactive systems necessary to maintain hemostasis.
29.02	Discuss common coagulopathies and associated treatments and therapies.
29.03	Discuss assessment and impact of preanalytical factors on hemostasis testing
29.04	Describe the principles of and perform routine testing used in the evaluation of the vascular, platelet, coagulation and fibrinolytic systems.
29.05	Discuss additional hemostasis tests performed to differentiate the cause of abnormal routine tests.
PSAV Course Number: MLT0505 Occupational Completion Point: C Immunology – 60 Hours – SOC Code 29-2012	
30.0	Demonstrate knowledge of immunology principles and procedures–The student will be able to:
30.01	Discuss the functions of the cells of the immune system, cytokines and regulatory molecules.
30.02	Discuss physical and chemical properties of immunogens (antigens), immunoglobulins (antibodies) and complement

30.03 Describe their roles in both *in vivo* and *in vitro* reactions.
30.04 Compare and contrast the principles of basic agglutination, flocculation and precipitation procedures in immunology/serology.
30.05 Perform basic procedures in immunology/serology.
30.06 Discuss principles of, immunoelectrophoresis, immunofixationand enzyme immunoassay.
30.07 Discuss the clinical significance of the commonly performed immunology/ tests.
30.08 Discuss selected specialty serological tests such as immuno assays.
PSAV Course Number: MLT0640 **Occupational Completion Point: C** **Clinical Chemistry – 255 Hours – SOC Code 29-2012**
31.0 Demonstrate knowledge of clinical chemistry principles and procedures–The student will be able to:
31.01 Identify the chemistry analytes used to evaluate various body systems.
31.02 Discuss the renal system and related chemistry tests.
31.03 Discuss principles of and perform common renal function tests.
31.04 Discuss carbohydrate, protein and lipid metabolism.
31.05 Discuss principles of and perform commonly ordered tests related to carbohydrate, protein and lipid metabolism.
31.06 Discuss the liver and its functions as related to chemistry tests.
31.07 Discuss principles of and perform commonly ordered liver function tests.
31.08 Discuss enzyme classification, origin, activity and function.
31.09 Discuss principles of and perform commonly ordered enzyme procedures.
31.10 Discuss electrolyte balance as related to health and disease.
31.11 Discuss principles of and perform electrolyte analyses.
31.12 Discuss principles of and perform commonly ordered tests to evaluate cardiac function.
31.13 Discuss the physiology of the endocrine system and the principal tests used to evaluate endocrine function.
31.14 Discuss the role of the laboratory in therapeutic drug monitoring and toxicology.
31.15 Discuss and perform general electrophoresis techniques.

31.16	Discuss the clinical significance of commonly ordered chemistry tests.
31.17	Demonstrate knowledge of principles of instrumentation as related to the clinical chemistry laboratory.
31.18	Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.
31.19	Discuss techniques of clinical chemistry related to visual colorimetry; calibration and use of the spectrophotometer.
31.20	Discuss basic techniques of clinical chemistry related to normal and abnormal physiology.
PSAV Course Number: MLT0520 Occupational Completion Point: C Immunohematology – 255 Hours – SOC Code 29-2012	
32.0	Demonstrate knowledge of immunohematology principles and procedures–The student will be able to:
32.01	Discuss donor interview, criteria for selection, phlebotomy preparation, and donor blood processing.
32.02	Discuss blood component collection and, preparation, storage and use.
32.03	Describe the roles of FDA, AABB, and state agencies and how to contact each.
32.04	Compare advantages and disadvantages for autologous, versus homologous (allogenic) blood collection and transfusion.
32.05	Discuss basic genetics of the blood group antigens
32.06	Discuss the ABO and Rh blood group systems and differentiate by using appropriate testing procedures.
32.07	Describe required tests on recipient blood samples and recognize discrepancies of ABO typing results.
32.08	Discuss and differentiate other blood group systems such as Duffy, Kell, Kidd, S,s, Lu and the common usually cold-reacting antibodies such as Le, P, I, M and N.
32.09	Perform antigen and antibody testing to determine Rh phenotypes.
32.10	Apply properties of blood group antigens to perform and interpret antibody screening.
32.11	Perform identification tests to detect clinically significant antibodies.
32.12	Discuss the safety and determine compatibility of blood components for transfusion.
32.13	Discuss and perform routine compatibility testing including the immediate spin crossmatch and the electronic crossmatch.
32.14	Discuss and perform red cell antigen typing on recipient donor specimens.
32.15	Identify symptoms of and required laboratory protocol for handling suspected transfusion reactions.
32.16	Discuss immune hemolytic disorders and perform the direct antiglobulin test.

32.17 Discuss appropriate absorption and elution techniques.
32.18 Verify appropriate quality control (QC) on reagents.
32.19 Describe the immune process which causes hemolytic disease of the fetus and newborn.
PSAV Course Number: MLT0450 **Occupational Completion Point: C** **Microbiology and Parsitology – 275 Hours – SOC Code 29-2012**
33.0 Demonstrate knowledge of microbiological principles and procedures–The student will be able to:
33.01 Discuss microbial taxonomy and nomenclature.
33.02 Discuss bacterial metabolism, reproduction, cell structures and their functions.
33.03 Discuss classification, composition and preparation of culture media.
33.04 Discuss the human pathogenesis of bacteria.
33.05 Discuss and perform techniques of microbiology related to sterilization techniques.
33.06 Perform culturing techniques for urine, stool, wound, throat, body fluids, blood and exudates.
33.07 Perform techniques of microbiology related to inoculation and transfer of cultures.
33.08 Discuss the principles of Gram and AFB stains.
33.09 Accurately perform, read and report gram stains.
33.10 Perform techniques necessary for isolation and identification of aerobic and anaerobic bacterial organisms.
33.11 Identify commonly encountered aerobic bacteria through morphological, physical and biochemical properties.
33.12 Perform and interpret antibiotic susceptibility tests.
33.13 Discuss collection and handling of specimens for fungal, mycobacterial and viral culture.
33.14 Prepare and examine specimens, and identify ova and parasites when present.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Clinical Laboratory Technician-ATD**
ATD CIP Number: **0351100401**
SOC Code(s): **31-9099, 31-9097, 29-2012**

When this program is offered at the college level, the following standards and benchmarks apply:

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Phlebotomy: (12-19)	
12.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
12.01	Demonstrate the appropriate professional behavior of a phlebotomist.
12.02	Explain to the patient the procedure to be used in specimen collection.
12.03	Explain in detail the importance of identifying patients correctly when drawing blood.
12.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
12.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
12.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
13.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
13.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.
13.02	Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.
13.03	Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).

14.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:
14.01	Describe and define major body systems with emphasis on the circulatory system.
14.02	List and describe the main superficial veins used in performing venipuncture.
14.03	Locate the most appropriate sites(s) for capillary and venipuncture.
14.04	Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
14.05	Compare and contrast between serum and plasma as it relates to blood collection.
14.06	Discuss hemostasis as it relates to blood collection.
15.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
15.01	Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
15.02	Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
15.03	Identify and discuss proper use of supplies used in collecting micro-specimens.
15.04	Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
15.05	Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
15.06	Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
15.07	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
16.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
16.01	Follow approved procedure for completing a laboratory requisition form.
16.02	Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
16.03	Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).
16.04	Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
16.05	List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
16.06	Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
16.07	Describe the correct order of draw.

16.08	Describe the use of barcoding systems used for specimen collection.
16.09	Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
16.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
16.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
16.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
16.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
16.14	Demonstrate the proper procedure for collecting blood cultures.
16.15	Discuss the effects of hemolysis and methods of prevention.
16.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
17.0	Practice infection control following standard precautions. – The student will be able to:
17.01	Define the term "nosocomial/ hospital acquired infection."
17.02	Describe and practice procedures for infection prevention including hand washing skills.
17.03	Discuss and perform transmission based precautions.
17.04	Identify potential routes of infection and their complications.
18.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
18.01	Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
18.02	Demonstrate knowledge of accessioning procedures.
18.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
18.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
19.0	Practice quality assurance and safety. – The student will be able to:
19.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.
19.02	Demonstrate knowledge of and practice appropriate patient safety.
19.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.

19.04	Follow documentation procedures for work related accidents.	
19.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.	
Medical Laboratory Technician: (20-33)		
20.0	Demonstrate knowledge and use of basic laboratory equipment and techniques.	
20.01	Identify the parts of the microscope and explain the function of each.	
20.02	Demonstrate the proper technique for operation of the microscope.	
20.03	Demonstrate use of standard laboratory equipment including glassware, pipettes and centrifuge.	
20.04	Perform basic laboratory math calculations.	
20.05	Apply principles of quality assurance to correct problems encountered in monitoring daily quality control.	
20.06	Evaluate laboratory findings and take necessary action to confirm or clarify results according to standard operation and procedure.	
20.07	Demonstrate knowledge of operation and principles of laboratory instruments.	
21.0	Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived)- The student will be able to	
21.01	Demonstrate the ability to interpret instructions of point of care testing including , but not limited to the following:	
	21.04.01	Test principle
	21.04.01	Storage & Stability
	21.04.01	Internal vs. External Quality Control
	21.04.01	Specimen collection & preparation
	21.04.01	Directions for use
	21.04.01	Interpretation of results
	21.04.01	Interfering substances
21.02	Demonstrate and discuss knowledge of lot numbers use and importance in regard to both kits and reagents.	
21.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.	
21.04	Explain the CLIA 88 classification of laboratory testing into waived, moderate, and highly complex including the personnel qualified to perform each.	

22.0	Demonstrate basic knowledge of and perform Point of Care(POC) Testing using CLIA approved Waived instrumentation- The student will be able to
22.01	Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.
22.02	Demonstrate competence in instrument maintenance.
22.03	Demonstrate knowledge of quality control and calibrations involved within the POC instruments.
22.04	Identify normal limits and associate abnormal results with disease or disorders.
22.05	Discuss the significance of reporting critical values as it applies to Point of Care testing.
23.0	Discuss the general responsibilities and functions encountered by a medical technician–The students will be able to:
23.01	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions.
23.02	Organize and communicate the results obtained by observation and experimentation.
23.03	Demonstrate ability to evaluate and draw conclusions.
23.04	Demonstrate ability to report observations in written or oral form.
23.05	Discuss the licensure and certification requirements of the major classifications of clinical laboratory personnel.
24.0	Apply quality assurance principles and safety protocols–The student will be able to:
24.01	Recognize specimen suitability and determine need for rejection/recollection using factors described in clinical protocol.
24.02	Describe special procedures for transporting and processing specimens.
24.03	Describe clinical laboratory role in providing quality assurance in laboratory testing, reporting, and use and maintenance of equipment.
24.04	Demonstrate required calibration procedures.
24.05	Demonstrate and record quality control procedures required for the tests performed and recognize unacceptable results.
24.06	Report identified problems encountered in daily quality control according to standard operating procedures.
24.07	Comply with current OSHA regulations regarding laboratory hazards.
25.0	Demonstrate knowledge of the operation of computer systems–The student will be able to:
25.01	Discuss the role of computer systems in laboratory data management.
25.02	Demonstrate knowledge of common computer terminology.

	25.03 Demonstrate entry level computer operations for specimen accessioning, data reporting, and quality control recording.
	25.04 Demonstrate entry level operational skills in the use of computer-interfaced analytical instrumentation.
26.0	Demonstrate an understanding of the basic principles of molecular diagnostics
	26.01 Discuss the principles and major steps of the polymerase chain reaction (PCR).
	26.02 Label the organelles and important parts of a eukaryotic animal cell.
	26.03 Describe the function of the organelles and important parts of a eukaryotic animal cell.
	26.04 Discuss the structure, function, and components of DNA and RNA.
	26.05 Define the key terms of molecular diagnostics.
	26.06 Understand the principles of molecular diagnostic testing.
	26.07 Compare the advantages and disadvantages of molecular techniques over traditional diagnostic tests for infectious diseases.
	26.08 List molecular tests associated with the identification of microorganisms.
	26.09 Identify the types of samples appropriate for molecular diagnostics.
	26.10 Discuss the ethical impact of genetic technologies on the delivery of health care.
	26.11 Outline requirements for reducing contamination in a molecular lab.
	26.12 Discuss nucleic acid probes and their role in clinical laboratory diagnostics.
27.0	Demonstrate knowledge of urinalysis and body fluids principles and procedures–The student will be able to:
	27.01 Identify the components of the urinary system and explain their functions.
	27.02 Discuss diseases affecting the urinary system.
	27.03 Describe collection, transport and storage procedures for random and timed urine specimens.
	27.04 Discuss physical properties related to normal and abnormal components of the urine including related odors, color.
	27.05 Discuss specific gravity techniques; calibration and use of the refractometer.
	27.06 Perform dipstick or tablet (nonautomated) urinalysis techniques for chemical exam of the urine and interpret results
	27.07 Demonstrate the proper use of urine strip readers.

	27.08	Describe renal function tests.
	27.09	Describe principles of and perform routine physical and chemical analyses on urine.
	27.10	Prepare urine sediments and perform identification and quantitation of microscopic formed elements.
	27.11	Correlate abnormal physical, chemical and microscopic urine results with associated pathological conditions.
	27.12	Define and discuss the differences between transudates and exudates.
	27.13	Discuss miscellaneous body fluids to include cerebral spinal, seminal and joint fluids.
	27.14	Perform physical, chemical and microscopic evaluations of common body fluids.
28.0	Demonstrate knowledge of hematological principles and procedures–The student will be able to:	
	28.01	Discuss the organs, cells and cellular interaction of the lymphoid, myeloid and reticuloendothelial systems.
	28.02	Demonstrate an understanding of basic concepts of hematopoietic regulation, proliferation and cellular differentiation.
	28.03	Identify the components of blood.
	28.04	Discuss the function of formed elements of blood.
	28.05	Demonstrate an understanding of the synthesis of normal and abnormal molecular structure of hemoglobin, common hemoglobinopathies and associated tests.
	28.06	Describe normal hemoglobin-oxygen function using the Oxygen Dissociation Curve (ODC).
	28.07	Discuss assessment and impact of preanalytical, analytical and post-analytical factors on hematology testing.
	28.08	Discuss techniques of hematology related to calculation of red blood cell indices.
	28.09	Discuss selected cytochemical staining and flowcytometry procedures.
	28.10	Perform standard operational procedures to evaluate erythrocytes and their physical properties using patient blood and quality control samples.
	28.11	State the review process of histogram/scatterplot/scattergram analysis.
	28.12	Describe the categories used in a morphological classification of anemias.
	28.13	Correlate automated hemogram parameter for red cell indices with peripheral exam of blood smear.
	28.14	List the maturation sequence and identify distinguishing morphology for stages of developing white blood cells or leukocytes using stained smears, photographs, electronic images or other visual means of representation.
	28.15	Discuss normal and abnormal hematology findings, reference ranges and associated diseases.

	28.16	Demonstrate an understanding of,normal and abnormal white cell morphology, related disease states and associated tests.
	28.17	Discuss the principles of and perform routine hematology procedures applying quality control procedures.as necessary.
	28.18	Perform commonly used methods to evaluate leukocytes, correlate and verify automated cell counts with established criteria.
	28.19	Identify the criteria used to classify nonmalignant leukocytic disorders, e.g. shift to the left, toxic granulation, Döhle bodies, etc.
	28.20	Perform techniques of manual blood smear evaluation including white blood cell differential, red cell and platelet morphology.
	28.21	Correlate peripheral blood evaluation with automated cell analysis.
	28.22	Perform platelet counts on patient and control specimens using manual and automated techniques and correlate counts with peripheral smear.
29.0	Demonstrate knowledge of hemostasis and related diagnostic principles and procedures–The student will be able to:	
	29.01	Discuss and define the interactive systems necessary to maintain hemostasis.
	29.02	Discuss common coagulopathies and associated treatments and therapies.
	29.03	Discuss assessment and impact of preanalytical factors on hemostasis testing
	29.04	Describe the principles of and perform routine testing used in the evaluation of the vascular, platelet, coagulation and fibrinolytic systems.
	29.05	Discuss additional hemostasis tests performed to differentiate the cause of abnormal routine tests.
30.0	Demonstrate knowledge of immunology principles and procedures–The student will be able to:	
	30.01	Discuss the functions of the cells of the immune system, cytokines and regulatory molecules.
	30.02	Discuss physical and chemical properties of immunogens (antigens), immunoglobulins (antibodies) and complement
	30.03	Describe their roles in both *in vivo* and *in vitro* reactions.
	30.04	Compare and contrast the principles of basic agglutination, flocculation and precipitation procedures in immunology/serology.
	30.05	Perform basic procedures in immunology/serology.
	30.06	Discuss principles of, immunoelectrophoresis, immunofixationand enzyme immunoassay.
	30.07	Discuss the clinical significance of the commonly performed immunology/ tests.
	30.08	Discuss selected specialty serological tests such as immuno assays.
31.0	Demonstrate knowledge of clinical chemistry principles and procedures–The student will be able to:	

31.01	Identify the chemistry analytes used to evaluate various body systems.
31.02	Discuss the renal system and related chemistry tests.
31.03	Discuss principles of and perform common renal function tests.
31.04	Discuss carbohydrate, protein and lipid metabolism.
31.05	Discuss principles of and perform commonly ordered tests related to carbohydrate, protein and lipid metabolism.
31.06	Discuss the liver and its functions as related to chemistry tests.
31.07	Discuss principles of and perform commonly ordered liver function tests.
31.08	Discuss enzyme classification, origin, activity and function.
31.09	Discuss principles of and perform commonly ordered enzyme procedures.
31.10	Discuss electrolyte balance as related to health and disease.
31.11	Discuss principles of and perform electrolyte analyses.
31.12	Discuss principles of and perform commonly ordered tests to evaluate cardiac function.
31.13	Discuss the physiology of the endocrine system and the principal tests used to evaluate endocrine function.
31.14	Discuss the role of the laboratory in therapeutic drug monitoring and toxicology.
31.15	Discuss and perform general electrophoresis techniques.
31.16	Discuss the clinical significance of commonly ordered chemistry tests.
31.17	Demonstrate knowledge of principles of instrumentation as related to the clinical chemistry laboratory.
31.18	Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.
31.19	Discuss techniques of clinical chemistry related to visual colorimetry; calibration and use of the spectrophotometer.
31.20	Discuss basic techniques of clinical chemistry related to normal and abnormal physiology.
32.0	Demonstrate knowledge of immunohematology principles and procedures–The student will be able to:
32.01	Discuss donor interview, criteria for selection, phlebotomy preparation, and donor blood processing.
32.02	Discuss blood component collection and, preparation, storage and use.

32.03	Describe the roles of FDA, AABB, and state agencies and how to contact each.
32.04	Compare advantages and disadvantages for autologous, versus homologous (allogenic) blood collection and transfusion.
32.05	Discuss basic genetics of the blood group antigens
32.06	Discuss the ABO and Rh blood group systems and differentiate by using appropriate testing procedures.
32.07	Describe required tests on recipient blood samples and recognize discrepancies of ABO typing results.
32.08	Discuss and differentiate other blood group systems such as Duffy, Kell, Kidd, S,s, Lu and the common usually cold-reacting antibodies such as Le, P, I, M and N.
32.09	Perform antigen and antibody testing to determine Rh phenotypes.
32.10	Apply properties of blood group antigens to perform and interpret antibody screening.
32.11	Perform identification tests to detect clinically significant antibodies.
32.12	Discuss the safety and determine compatibility of blood components for transfusion.
32.13	Discuss and perform routine compatibility testing including the immediate spin crossmatch and the electronic crossmatch.
32.14	Discuss and perform red cell antigen typing on recipient donor specimens.
32.15	Identify symptoms of and required laboratory protocol for handling suspected transfusion reactions.
32.16	Discuss immune hemolytic disorders and perform the direct antiglobulin test.
32.17	Discuss appropriate absorption and elution techniques.
32.18	Verify appropriate quality control (QC) on reagents.
32.19	Describe the immune process which causes hemolytic disease of the fetus and newborn.
33.0	Demonstrate knowledge of microbiological principles and procedures–The student will be able to:
33.01	Discuss microbial taxonomy and nomenclature.
33.02	Discuss bacterial metabolism, reproduction, cell structures and their functions.
33.03	Discuss classification, composition and preparation of culture media.
33.04	Discuss the human pathogenesis of bacteria.
33.05	Discuss and perform techniques of microbiology related to sterilization techniques.

33.06	Perform culturing techniques for urine, stool, wound, throat, body fluids, blood and exudates.
33.07	Perform techniques of microbiology related to inoculation and transfer of cultures.
33.08	Discuss the principles of Gram and AFB stains.
33.09	Accurately perform, read and report gram stains.
33.10	Perform techniques necessary for isolation and identification of aerobic and anaerobic bacterial organisms.
33.11	Identify commonly encountered aerobic bacteria through morphological, physical and biochemical properties.
33.12	Perform and interpret antibiotic susceptibility tests.
33.13	Discuss collection and handling of specimens for fungal, mycobacterial and viral culture.
33.14	Prepare and examine specimens, and identify ova and parasites when present.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical learning experiences in a clinical laboratory and related areas are an integral part of this program. Clinical learning experiences should reflect the full breadth of responsibilities expected of a Medical Laboratory Technician and should include appropriate experience in each of the areas of the laboratory described herein. The specified length for each of the courses listed is inclusive of clinical experience for each of the respective laboratory sections.

Special Notes

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Either a community college or school district may offer the ATD program. When offered at the community college, college credit shall be awarded for completion of this program. When offered at the school district, vocational credit will be awarded. Vocational credit will be converted to college credit upon transfer to the AS degree at the community college.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.
The programs should be accredited by:

The Accrediting Bureau of Health Education Schools (ABHES)
7777 Leesburg Pike, Suite 314
North Falls Church, VA 22403
(703) 917-9503 Fax (703) 917-4109

Or any other agency as specified by the Division of Medical Quality Administration, Board of Clinical Laboratory Personnel Chapter 483 F.S., Rule 590 FAC, "Florida Clinical Laboratory Personnel Law". The graduate of a board approved program should be prepared to take the appropriate licensing examination to practice in Florida and an appropriate national certifying examination. For further information contact:

Board of Clinical Laboratory Personnel
4052 Bald Cypress Way, Bin CO7
Tallahassee, FL 32399-3257
(850) 245-4444 x3625

National Certification is voluntary and may be obtained from the:

American Medical Technologists
710 Higgins Rd.
Park Ridge, IL. 60068
(847) 823-5169 or
800-275-1268

Or

National Healthcareer Association
7500 West 160th Street
Stilwell, Kansas 66085
800-499-9092
(973) 644-4797

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C. the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted

from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Program Length

In accordance with Rule 6A-10.024, F.A.C. an ATD program consists of a course of study that is part of an AS or AAS degree program, is less than 60 credit hours, is approximately 50% of the technical component (non-general education), and leads to employment in a specific occupation. An ATD program may consist of either technical credit or college credit.

Students must have a high school diploma, a GED, or a certificate of completion to be admitted to an ATD program. Within six weeks of entry, students in ATD programs of 450 or more hours must be tested pursuant to Rule 6A-10.040, F.A.C. and if below minimum standards for completion from the program, must receive remedial instruction. The minimum standards must be at least the equivalent of a score of ten (10) on all sections of basic skills test approved in Rule 6A-10.040, F.A.C. Students must successfully complete all remedial instruction before completing the ATD.

Community Colleges may offer either college or career credit toward the ATD. A Career Center in a public school district may offer an ATD program only as technical credit, with college credit awarded to a student upon articulation to a community college (Section 1004.02, F.S.)

When offered at a community college the standard length of this program is 40 credits. When offered at a technical center the standard length of this program is 1515 clock hours.

In accordance with Rule 6A-10.024, F.A.C. all faculty providing instruction must have at least a baccalaureate degree or an associate degree with demonstrated competencies in the specific instructional program as defined by the Southern Association of Colleges and Schools.

Florida Department of Education
Curriculum Framework

Program Title: **Ophthalmic Laboratory Technician**
Career Cluster: **Health Science**

CCC	
CIP Number	0351100600
Program Type	College Credit Certificate (CCC)
Program Length	24 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	51-9083 Ophthalmic Laboratory Technicians

Purpose

This certificate program is part of the Opticianry AS degree program (1351180100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as Ophthalmic Laboratory Technicians. SOC Code 51-9083 (Ophthalmic Laboratory Technicians).

The content includes but is not limited to basic instruction in anatomy and physiology, CPR, Heartsaver, office practices and dispensing of visual devices. Because optometrists now deal with certain drugs, students need knowledge of diagnostic and therapeutic drugs under supervision.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Perform lens preparation.
13.0 Demonstrate knowledge of edging lenses.
14.0 Perform edging using appropriate automatic equipment.
15.0 Perform edging using appropriate hand edging equipment.
16.0 Demonstrate knowledge of impact resistant lenses.
17.0 Demonstrate knowledge of insets and prisms in lenses.
18.0 Perform special procedures.

Florida Department of Education
Student Performance Standards

Program Title: **Ophthalmic Laboratory Technician**
CIP Number: **0351100600**
Program Length: **24 credit hours**
SOC Code(s): **51-9083**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Ophthalmic Technician AS degree program (1351180301). At the completion of this program, the student will be able to:
Completion of the following competencies (12-18) lead to completion point of SOC Code51-9083 (Ophthalmic Laboratory Technicians)
12.0 Perform lens preparation–The student will be able to:
12.01 Define the terms pertaining to surfacing.
12.02 Relate the RX to surfacing spherical lenses.
12.03 Calculate laps for spherical lenses.
12.04 Determine the thickness calculations for spherical lenses.
12.05 Prepare a lot spherical lenses for surfacing.
12.06 Block spherical lenses for surfacing glass and plastic.
12.07 Set up a generator for surfacing plus and minus grind spherical lenses.
12.08 Fine spherical glass and plastic lenses.
12.09 Polish spherical glass and plastic lenses.

	12.10 Inspect and deblock finished lenses.
	12.11 Define terms pertaining to sphero-cylinder lenses.
	12.12 Relate RX to surfacing cylindrical lenses for flat transposition and toric transposition.
	12.13 Calculate base curve and laps for surfacing cylindrical lenses.
	12.14 Thickness calculations for cylindrical lenses.
	12.15 Enter information on job ticket.
	12.16 Layout lenses for surfacing cylindrical lenses.
	12.17 Set-up the generator for surfacing cylindrical lenses.
	12.18 Define the terms relating to multifocal lenses.
	12.19 Relate Rx to surfacing multifocal lenses.
13.0	Demonstrate knowledge of edging lenses–The student will be able to:
	13.01 Explain the need to verify a lens before edging.
	13.02 Describe the methods to verify a lens before edging.
	13.03 Describe the "Boxing System".
	13.04 Explain the need for decentering a lens.
	13.05 Give examples that bring about decentration in and/or out when laying out for edging.
	13.06 Explain how thickness is verified and the need to control it.
	13.07 Explain 5 surface defects a lens may have and how an optician would be able to detect each.
	13.08 Apply A.N.S.I. Z-80 standards when verifying uncut, edged and mounted single vision lenses.
14.0	Perform edging using appropriate automatic equipment–The student will be able to:
	14.01 Explain the procedures to layout for edging single vision spherical and cylindrical lenses.
	14.02 Demonstrate the ability to layout single vision lenses for edging.
	14.03 Explain why verification of the layout is necessary.

14.04	Explain how the optician will verify the layout and what will be checked.
14.05	Explain the different uses the pattern may have in verifying the layout of lenses.
14.06	Explain the use of the "Box-o-graph" for patterns and lenses.
14.07	Demonstrate the ability to verify a layout.
14.08	Demonstrate the ability to make patterns.
14.09	Explain methods of blocking lenses for edging.
14.10	Explain sizing procedures including set, set size, and on size.
14.11	Explain the procedures to edge lenses in various automatic edgers.
14.12	Explain a standard bevel and its uses.
14.13	Explain a hide-a-bevel and its uses.
14.14	Explain a flat bevel and its uses.
14.15	Explain a grooved bevel and its uses.
14.16	Explain a 1/3 - 2/3 bevel and its uses.
14.17	Explain combination bevels and what they are used for.
14.18	Explain maintenance schedules and calibration techniques for blocking and edging equipment.
14.19	Demonstrate the ability to block lenses, edge lenses using the automatic edgers, and control sizing.
15.0	Perform edging using appropriate hand edging equipment–The student will be able to:
15.01	Describe the different types of handedgers.
15.02	Compare and contrast the advantages and/or disadvantages of ceramic and diamond hand edgers.
15.03	Explain the methods of hand beveling.
15.04	Explain the reasons for not re-edging glass lenses.
15.05	Explain the methods to re-edge lenses.
15.06	Explain the reasons for and use of safety or pin bevels.

	15.07 Explain the difference between hand edging or beveling and safety or pin beveling.
	15.08 Demonstrate the ability to hand bevel and/or reshape lenses to fit any given frame.
	15.09 Demonstrate the ability to insert lenses into various frames
	15.10 Explain the methods of hand beveling.
	15.11 Explain the reasons for not re-edging glass lenses.
	15.12 Explain the methods to re-edge lenses.
	15.13 Explain the uses for the polarascope.
	15.14 Demonstrate the ability to hand bevel and/or reshape lenses to fit any given frame.
	15.15 Edge lenses using the HORIZON edger.
	15.16 Explain prism as it relates to edging of single vision lenses, including decentered and ground.
	15.17 Explain the procedure for laying out single vision lenses with prism.
	15.18 Explain maintenance schedules and calibration techniques for edging equipment.
16.0	Demonstrate knowledge of impact resistant lenses–The student will be able to:
	16.01 Explain the heat treating method of making lenses impact resistant.
	16.02 Explain the chemical treating method of making lenses impact resistant.
	16.03 Explain what happens in the process of making a lens impact resistant.
	16.04 Explain the drop ball test and when to use it according to FDA regulations.
	16.05 Explain the legal responsibility in relationship to impact resistant lenses.
	16.06 Explain different types of lens materials and their relationship to impact resistance.
17.0	Demonstrate knowledge of insets and prisms in lenses–The student will be able to:
	17.01 Explain what is meant by segment position for edging and give examples of computation for segment position in bifocal lenses.
	17.02 Explain inset and relate it to the Rx, the patient, and the lenses.
	17.03 Explain total decentration or total inset.

	17.04 Explain the method of achieving prism in a multifocal.
	17.05 Explain the procedures to layout flat bifocal lenses.
	17.06 Demonstrate the ability to layout and edge flat top bifocal lenses.
18.0	Perform special procedures–The student will be able to:
	18.01 Layout SV, ST, Round, Exec, Progressive and other lenses.
	18.02 Block lenses.
	18.03 Calculate set sizes.
	18.04 Make patterns.
	18.05 Hand bevel lenses.
	18.06 Safety bevel lenses.
	18.07 Reshape lenses.
	18.08 Dye lenses.
	18.09 UV treat lenses.
	18.10 Heat treat lenses.
	18.11 Chemical treat lenses.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students are prepared to assist in performing tests to determine defects in vision, preparing and fitting eyeglasses and contact lenses, and administering corrective eye exercises and other treatments under the supervision of a person licensed under FL Statutes 458, 459, 463 or 484.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Students should be strongly encouraged to take the Certification examination offered by the Paraoptometric Section of the American Optometric Association.

Cooperative training - OJT is appropriate for this program. Whenever cooperative training - OJT is offered, the following are required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal. The student must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Eye Care Technician**
Career Cluster: **Health Science**

CCC	
CIP Number	0351180302
Program Type	College Credit Certificate (CCC)
Program Length	48 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Purpose

This certificate program is part of the Opticianry AS degree program (1351180100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as Eye Care Technicians. SOC Code 31-9099 (Healthcare Support Workers, All Other)

The content includes but is not limited to basic instruction in anatomy and physiology, CPR, Heartsaver, office practices and dispensing of visual devices. Because optometrists now deal with certain drugs, students need knowledge of diagnostic and therapeutic drugs under supervision.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Report and record patient information.
13.0 Demonstrate knowledge of business management techniques.
14.0 Performs delivery of optical devices.
15.0 Perform and assist in procedures used in visual testing.
16.0 Perform special procedures.
17.0 Demonstrate knowledge of the refractive status of the eye and binocularity.
18.0 Demonstrate knowledge of basic ocular anatomy and physiology.

Florida Department of Education
Student Performance Standards

Program Title: **Eye Care Technician**
CIP Number: **0351180302**
Program Length: **48 credit hours**
SOC Code(s): **31-9099**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

This certificate program is part of the Ophthalmic Technician AS degree program (131180301). At the completion of this program, the student will be able to:	
The completion of the following competencies (12-18) leads to the completion point of SOC Code 31-9099 (Healthcare Support Workers, All Other)	
12.0	Report and record patient information–The student will be able to:
12.01	Properly identify patients.
12.02	Obtain specified data from patient and family regarding visual status.
12.03	Receive and give oral report of patient's visual status.
12.04	Report and record pertinent observations of visual status.
12.05	Utilize verbal and written information to assist with the plan of care for the patient.
13.0	Demonstrate knowledge of business management techniques–The student will be able to:
13.01	Demonstrate knowledge of legal and ethical standards of vision care professionals.
13.02	Demonstrate the use of several means of communication.
13.03	Maintain and file patient records.

	13.04 Bill and collect current and overdue accounts.
	13.05 Practice office supply control.
	13.06 Demonstrate knowledge of medical terminology.
	13.07 Practice accepted work ethic.
	13.08 Demonstrate basic maintenance of equipment.
	13.09 Schedule patients.
	13.10 Complete and file third party forms.
	13.11 Type 25 words per minute correctly.
14.0	Perform delivery of optical devices–The student will be able to:
	14.01 Transcribe, transpose, and interpret prescriptions.
	14.02 Neutralize and verify lenses.
	14.03 Edge and insert lenses.
	14.04 Select and order lenses.
	14.05 Adjust, dispense and repair spectacles.
	14.06 Assist patients with frame and lens selection.
	14.07 Demonstrate knowledge of basic mathematical principles that are involved in ophthalmic and geometrical optics.
	14.08 List the types of repairs which can be performed on plastic and metal frames and describe how these repairs are accomplished.
	14.09 Demonstrate knowledge of various lens designs and materials.
15.0	Perform and assist in procedures used in visual testing–The student will be able to:
	15.01 Perform vision screening and preliminary testing.
	15.02 Measure and record visual acuity.
	15.03 Measure and record color vision.
	15.04 Measure and record stereo acuity.

	15.05 Take and record patient histories.
	15.06 Perform chairside assisting.
	15.07 Describe components of and instrumentation used in comprehensive vision evaluation.
16.0	Perform special procedures–The student will be able to:
	16.01 Assist in fitting contact lenses.
	16.02 Instruct patients in care and handling of contact lenses.
	16.03 Use selected instruments to verify contact lenses.
	16.04 Demonstrate knowledge of the advantages and disadvantages of various contact lens materials and designs.
	16.05 Demonstrate knowledge of vision therapy.
	16.06 Measure and record intraocular pressure.
	16.07 Measure and record a visual field.
	16.08 Demonstrate knowledge of diagnostic and therapeutic drugs.
17.0	Demonstrate knowledge of the refractive status of the eye and binocularity–The student will be able to:
	17.01 Demonstrate knowledge of refractive errors.
	17.02 Demonstrate knowledge of visual deficiencies.
	17.03 Demonstrate knowledge of ocular motility.
	17.04 Demonstrate knowledge of binocular vision.
	17.05 Demonstrate ability to communicate knowledge to patients.
	17.06 Demonstrate the ability to recognize sight threatening emergencies.
18.0	Demonstrate knowledge of basic ocular anatomy and physiology–The student will be able to:
	18.01 Demonstrate knowledge of ocular anatomy.
	18.02 Demonstrate knowledge of ocular physiology.
	18.03 Demonstrate knowledge of pathological and functional disorders of the eye.

18.04 Correlate general health as it relates to ocular health.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students are prepared to assist in performing tests to determine defects in vision, preparing and fitting eyeglasses and contact lenses, and administering corrective eye exercises and other treatments under the supervision of a person licensed under FL Statutes 458, 459, 463 or 484.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Students should be strongly encouraged to take the Certification examination offered by the Paraoptometric Section of the American Optometric Association.

Cooperative training - OJT is appropriate for this program. Whenever cooperative training - OJT is offered, the following are required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal. The student must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Health Navigator Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0351221100
Program Type	College Credit
Standard Length	31 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11.9111 Medical and Health Services Manager 21.1094 Community Health Worker

Purpose

This certificate program is part of the Health Navigator AS degree program (1351221100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The purpose of this program is to prepare students for employment as health navigators. SOC Codes: 11.9111 (Medical and Health Services Manager) or 21.1094 (Community Health Worker) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of health insurance, introduction to computer literacy, health care organization, medical ethics, legal aspects, and advanced technical skills in a chosen health-related profession, health and safety.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 31 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Identify and apply basic knowledge of different aspects of wellness.
02.0 Demonstrate knowledge of various topics pertinent to the five core disciplines of public health.
03.0 Demonstrate the ability to identify U.S. health care delivery funding sources.
04.0 Demonstrate ability to work as a health navigator or community health worker.
05.0 Demonstrate knowledge of current events in the field of public health.
06.0 Demonstrate knowledge of health communication and its impact on health outcomes.
07.0 Define and describe: long-term care and types of residences.
08.0 Demonstrate the use of evidence to draw conclusions about disease etiology.
09.0 Demonstrate knowledge of the three primary levels of prevention.
10.0 Demonstrate knowledge of how the insured and uninsured interact with the United States healthcare system.

Florida Department of Education
Student Performance Standards

Program Title: **Health Navigator Specialist**
CIP Number: **0351221100**
Program Length: **31 credit hours**
SOC Code(s): **11.9111, 21.1094**

This certificate program is part of the Health Navigator (60) AS program (1351221100). At the completion of this program, the student will be able to:	
01.0	Identify and apply basic knowledge of different aspects of wellness. – The student will be able to:
01.01	Discuss integrating health living into one's lifestyle.
01.02	Define: physical fitness, mental health, nutrition, tobacco usage, alcohol consumption, illicit drug use, family living and how these factors connect with the concepts of wellness on a personal level.
01.03	Identify the risk factors for cardiovascular disease.
01.04	Describe the effects of tobacco and smoking on the human body.
01.05	Describe the various fitness methods to improve health.
01.06	Discuss the effects of nutrition on health and wellness.
01.07	Explain body composition and achieving a healthy weight.
01.08	Describe stress management strategies.
01.09	Discuss the use and abuse of illicit drugs in society.
01.10	Describe the effects of chronic disease on the human body.
02.0	Demonstrate knowledge of various topics pertinent to the five core disciplines of public health. – The student will be able to:
02.01	Define public health.
02.02	Describe core disciplines of public health: Community and Family Health, Environmental and Occupational Health, Health Policy and Management, Epidemiology/Biostatistics and Global Health.
02.03	Describe why public health is important.
02.04	Summarize the historical milestones in public health.

	02.05	Identify and describe the five core disciplines of public health.
	02.06	Identify elements of public health in our everyday world.
	02.07	Explain the concepts of: prevention, detection, control of infectious and chronic conditions, health disparities, and global health.
	02.08	Compare and contrast examples of major domestic and international public health issues.
03.0	Demonstrate the ability to identify U.S. health care delivery funding sources. – The student will be able to:	
	03.01	Demonstrate an understanding of the evolutionary perspective of health services and its relevance with the existing healthcare system, facilities and services.
	03.02	Explain the social, political, and public policy implications of health-related issues, such as availability, cost, delivery, and financing.
	03.03	Describe the various health care organizations and service delivery options.
	03.04	Identify the major health professions and explain the role of each and their licensing/educational requirements.
	03.05	Compare and contrast the health care delivery systems of the U.S. with other major industrialized nations.
	03.06	Understand the array of career choices in the health care sector of the economy.
	03.07	Discuss the various sources and uses of funds for healthcare as well as market trends and future implications.
04.0	Demonstrate ability to work as a health navigator or community health worker. – The student will be able to:	
	04.01	Identify community agencies where health navigators are employed.
	04.02	Complete a field experience that provides student with descriptions of primary duties, annual salary and interaction with professional organization.
	04.03	Demonstrate an understanding of the essential duties of health navigators.
	04.04	Describe barriers to care faced by patients and consumers of placement site.
	04.05	Discuss the core health activities of placement site.
	04.06	Demonstrate an understanding of how placement site works with: local, county, state and federal agencies.
	04.07	Evaluate the role of health navigation in patient health care.
	04.08	Demonstrate communication techniques to assess patient health and needs.
05.0	Demonstrate knowledge of current events in the field of public health. – The student will be able to:	
	05.01	Identify outlets (news, media, governmental) used to communicate public health events to the general public.
	05.02	Describe the implications of current events on public health.

	05.03	Discuss concerns related to how public health information is relayed to the public.
	05.04	Recognize how reporting of global events (e.g. epidemics, regime change, and weather events) has the potential to impact other areas.
	05.05	Locate emerging public health trends.
	05.06	Explain etiology of emerging public health trends discussed throughout semester.
	05.07	Discuss legislation designed to protect the public's right to information during major health events (epidemics, terrorism, natural disasters).
06.0	Demonstrate knowledge of health communication and its impact on health outcomes. – The student will be able to:	
	06.01	Describe key concepts and skills used to identify individuals with reduced health literacy.
	06.02	Explain how understanding health literacy is as a determinant of health.
	06.03	Discuss how to best provide culturally-appropriate communication and care starting with an awareness of one's own culture and the skills needed to provide sensitive and meaningful care and services to others.
	06.04	Discuss basic constructs of theories used in behavior change and persuasion.
	06.05	Classify health communication programs based on disease type (e.g. chronic vs. infectious).
	06.06	Determine communication methods to be used in specific settings (healthcare, school, and workplace).
	06.07	Discuss risks and rewards associated with use of digital communication in health care.
07.0	Define and describe: long-term care and types of residences. – The student will be able to:	
	07.01	Explain psychological factors associated with the graying of populations in developed areas.
	07.02	Describe demographic characteristics of aging population.
	07.03	Describe the phenomenon of increasing life expectancy.
	07.04	Discuss health promotion and prevention for aging populations.
	07.05	Compare and contrast aging populations across the 20 and 21st centuries.
	07.06	Summarize the geriatric medicine movement.
08.0	Demonstrate the use of evidence to draw conclusions about disease etiology. - The student will be able to:	
	08.01	Define evidenced based thinking in public health.
	08.02	Identify evidence based recommendations to determine disease etiology, benefits and basic recommendations for prevention.

	08.03	Discuss health information concepts related to economic, legal and social issues.
	08.04	Investigate a problem by using evidenced based thinking skills to define a health problem and determine what information is needed to make a decision.
	08.05	Locate and evaluate online health information to determine appropriate audiences are reached using specific content to the demographic group.
09.0	Demonstrate knowledge of the three primary levels of prevention. – The student will be able to:	
	09.01	Discuss implementation methods of prevention used in public health: education, motivation and obligation.
	09.02	Describe the three levels of prevention in public health: primary, secondary and tertiary.
	09.03	Explain how preventative methods can be used throughout the life-cycle.
	09.04	Identify individual and community prevention needs in order to connect available resources to distressed areas.
	09.05	Summarize specific primary prevention methods including: vaccinations, exercise, nutrition counseling, and birth control.
	09.06	Summarize secondary prevention methods including: screening for risk factors of cardiovascular disease and injury prevention.
	09.07	Summarize specific tertiary prevention methods including: treatment to control symptoms and prevent complications.
10.0	Demonstrate knowledge of how the insured and uninsured interact with the United States healthcare system. – The student will be able to:	
	10.01	Identify types of health insurance, e.g., Medicaid, Medicare and Medigap, exchanges, employment-based.
	10.02	Accurately describe the history of the development of the U.S. Healthcare system.
	10.03	Explain the relationship between essential services such as: preventive care, emergency care, choice of providers, institutional options, prescription drug options and coverage decisions.
	10.04	Describe issues associated with having access to care in the absence of health insurance and consequences of the decision not to obtain health insurance.
	10.05	Explain goals, limitations and basic rules for eligibility for worker’s compensation.
	10.06	Discuss market and social justice philosophies in relation to health care coverage internationally.
	10.07	Describe the advantages and disadvantages of the U.S. health care coverage system.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Biotechnology Specialist**
Career Cluster: **Health Science**

CCC	
CIP Number	0626120101
Program Type	College Credit Certificate (CCC)
Program Length	19 credit hours
CTSO	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	19-4021 – Biological Technicians

Purpose

This certificate program is part of the Biotechnology Laboratory Technology AS degree program (1341010100).

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.).

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The content includes but is not limited to broad biology and chemistry concepts, algebraic analysis, documentation procedures, basic laboratory techniques and concepts, as well as biohazard and safety procedures.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate communication skills.
02.0 Demonstrate safety skills.
03.0 Demonstrate basic laboratory skills.
04.0 Demonstrate regulatory compliance.
05.0 Demonstrate appropriate decision making and problem solving techniques.
06.0 Demonstrate specific laboratory skills.
07.0 Demonstrate quality assurance/control.
08.0 Maintain facility and equipment.

Florida Department of Education
Student Performance Standards

Program Title: **Biotechnology Specialist**
CIP Number: **00626120101**
Program Length: **19 credit hours**
SOC Code(s): **19-4021**

This certificate program is part of the Biotechnology Laboratory Technology AS degree program (1341010100). At the completion of this program, the student will be able to:	
01.0	Demonstrate communication skills--The student will be able to:
01.01	Comprehend and use correct scientific, technical and medical vocabulary.
01.02	Follow/analyze experimental and laboratory protocols.
01.03	Keep accurate laboratory records in notebooks or other approved mediums.
01.04	Perform basic applications in word processing, spread sheets, databases, presentations and project management.
01.05	Develop basic observational skills and related documentation strategies in written and oral form.
01.06	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
02.0	Demonstrate safety skills--The student will be able to:
02.01	Identify and maintain first aid supplies, eye wash station, emergency shower, co-worker contact, medical information, emergency protection, chemical hygiene plan and evacuation plan.
02.02	Follow correct safety procedures, guidelines and chemical hygiene plans.
02.03	Maintain required environmental health, safety, and laboratory training.
02.04	Maintain a safe, uncluttered and clean work area.
02.05	Handle, store, and dispose of hazardous materials per appropriate MSDS, other safety guidelines, Worker Protection Standards (WPS) and/or appropriate regulatory guidelines (i.e.. State, federal, local, accreditation, etc.).
02.06	Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.
02.07	Demonstrate procedures for declaring a laboratory emergency and/or responding with appropriate institutional procedures.
03.0	Demonstrate basic laboratory skills--The student will be able to:

	03.01	Obtain and read protocol, test procedure, standard operating procedure (SOP), equipment manuals, and proper forms.
	03.02	Clean, organize and sterilize materials and laboratory instruments, when required.
	03.03	Organization of supply inventory; date/label reagents and store promptly upon arrival.
	03.04	Demonstrate knowledge of asepsis and practice procedures such as hand-washing and isolation.
	03.05	Use titration/pipetting techniques; measure volume/weights.
	03.06	Perform basic calculations, unit conversions, graphing of data and statistical analysis.
	03.07	Calculate and prepare dilutions series.
	03.08	Prepare solutions and reagents for laboratory use.
	03.09	Collect and set up samples for analysis.
	03.10	Set up general laboratory tests, including, setup equipment and perform/document tests and results.
	03.11	Demonstrate knowledge of chemical cross-contamination control between reagents from weighing implements, storage containers and media.
04.0	Demonstrate regulatory compliance--The student will be able to:	
	04.01	Follow guidelines from the appropriate regulatory, accreditation, and/or certification agencies, such as FDA, OSHA, USDA, NIH, NR, DOT, EPA, CDC, ISO/IEC and NRC.
	04.02	Comply with principles using current Good Experimental Practices and quality improvement systems (e.g., GXP; GLP, GMP, GCP)
05.0	Demonstrate appropriate decision making and problem solving techniques--The student will be able to:	
	05.01	Make decisions based on accurate facts, data, and agreed-upon goals.
	05.02	Demonstrate ability to evaluate data and draw conclusions.
	05.03	Diagnose problem, its urgency and causes, and documenting as appropriate.
06.0	Demonstrate specific laboratory skills--The student will be able to:	
	06.01	Decontaminate and/or dispose of equipment, glassware, biologicals.
	06.02	Perform microbiology skills, which may include but are not limited to, plating techniques, isolating and characterizing cell lines, propagating cell lines, and cryogenic techniques.
	06.03	Perform various genetic engineering techniques including but not limited to, transformation, transfection of mammalian, insect, and/or bacterial cells.
	06.04	Perform various molecular biology techniques, including but not limited to isolation, quantitation, amplification, electrophoresis and hybridization of both RNA and DNA and construction of recombinant vectors.

	06.05	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
	06.06	Perform chemical assays including but not limited to measuring turbidity, viscosity, density, quantitative analysis, distillation techniques, titration techniques, employing dyes and indicators, lyophilization and organic chemistry techniques.
	06.07	Collect data, perform assays, and document results of laboratory instruments.
07.0	Demonstrate quality assurance/control--The student will be able to:	
	07.01	Perform quality tests and document results.
	07.02	Verify test standards and maintain QA records.
	07.03	Archive samples and documents.
	07.04	Inspect and verify integrity of product, procedure, and specimen.
08.0	Maintain facility and equipment--The student will be able to:	
	08.01	Monitor/record the environmental condition of the facility (e.g., growth chamber, laboratory, greenhouse, storage room, animal room, freezers or manufacturing site).
	08.02	Notify appropriate personnel if sampling indicates a problem.
	08.03	Clean work area according to SOPs.
	08.04	Label equipment.
	08.05	Check calibration and perform systems diagnostics
	08.06	Check and maintain equipment, logs and perform preventative maintenance tasks according to schedule and, operate laboratory equipment and instrumentation after familiarization with manuals and/or training.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals and Skills USA are the intercurricular career and technical student organizations for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Funeral Services**
Career Cluster: **Health Science**

AS	
CIP Number	1312030100
Program Type	College Credit
Standard Length	72 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11-9061 Funeral Service Managers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as embalmers, funeral attendants, or funeral directors and morticians (SOC Code 119061 Funeral Directors and Morticians) or to provide supplemental training for persons previously or currently employed in these occupations

The content includes but is not limited to techniques of embalming and restorative art, mortuary administration, funeral law, public health and sanitation, human anatomy and physiology, microbiology, pathology, mortuary social science, stress management, employability skills, leadership and human relations skills, and health and safety, including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 72 credit hours.

Regulated Programs

The program must be accredited by the American Board of Funeral Service Educators and once completed a student may apply to the Division of Funeral, Cemetery and Consumer Services for their internship and to take the Florida Laws and Rules Exam to practice as a licensed embalmer or funeral director, according to Chapter 497 FS.

The intended outcomes are the same as the adopted curricular objectives of the American Board of Funeral Service Education which must be endorsed by accredited programs as curricular standards.

Upon completion of the associate in science in funeral service, graduates are qualified to write the National Funeral Service Board Examination. The program must be accredited by the American Board of Funeral Services Education, Inc., 14 Crestwood Road, Cumberland, Maine 04021 (207/829-5715) 497.000 F.S. ; 69K-15.002(1) F.A.C.

One year of internship is required in the State of Florida for the embalmer or the funeral director license. These internships may be served concurrently. Upon completion of the internship, students are eligible to write the Florida state examination for the embalmer and funeral director license.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Satisfactorily perform the basic techniques of embalming and restorative art and cosmetology.
02.0 Give evidence of an understanding of the sociological, psychological, spiritual, physical, and legal needs of the family and community, and how to meet those needs in the treatment, handling, and disposition of the dead human body.
03.0 Explain the concepts of death, disinfection, preservation and restoration of a dead human body.
04.0 Identify fundamental principles of personal and public health protection measures, and define the embalmer's obligation to this function.
05.0 Identify, define, and employ the necessary technical terminology to facilitate communication and cooperation with members of allied professions and the public.
06.0 Give evidence of personal manifestations of continued professional growth through education and research.
07.0 Identify those common conditions surrounding death which may prove of potential concern to the forensic pathologist.
08.0 Take care of the dead in a manner which recognizes the inherent dignity of human-kind.
09.0 Identify the privileges of and be able to, through professional practices, fulfill the responsibilities of licensure.
10.0 Interpret and communicate the purposes, procedures, and values of funeral services.
11.0 Counsel people regarding funeralization.
12.0 Plan, implement, and direct a funeral according to the sociological, psychological and theological needs of the person being served.
13.0 Identify and comply with the laws pertaining to funeral service practice and public health.
14.0 Manage personnel, facilities, and other resources.
15.0 Apply business principles and practices to funeral service.
16.0 Recognize the importance of inter-professional and intra-professional relationship and responsibilities.
17.0 Recognize the procedures for becoming an active member of the community and participating in community affairs.
18.0 Demonstrate and understanding of entrepreneurship.

Florida Department of Education
Student Performance Standards

Program Title: **Funeral Services**
CIP Number: **1312030100**
Program Length: **72 credit hours**
SOC Code(s): **11-9061**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Satisfactorily perform the basic techniques of embalming and restorative art and cosmetology–The student will be able to:
01.01	Demonstrate knowledge of the body systems, with special emphasis on the circulatory system, to the degree needed to give a working basis for studies in such related subjects as Embalming, Pathology, Public Health, and Restorative Art.
01.02	Specify representative chemicals in embalming fluids (arterial, cavity and accessory) and give their respective functions.
01.03	Describe the basic theories and laws of chemistry and relate their importance to both the living and deceased.
01.04	Identify and demonstrate the use of standard embalming instruments, machines and accessories.
01.05	Describe prior to, and during the procedure of embalming, the problems presented by disease processes and etiological factors.
01.06	Identify potentially harmful chemicals used in the preparation room, and the precautions to be taken with each.
01.07	Relate specified types of restoration to the correct embalming procedures.
01.08	Select, from a specified cosmetic medium, the correct colorants (compounds) to achieve a natural appearance under various conditions.
01.09	Exhibit a skill in modeling which reflects an ability to restore features of the face.
01.10	Interpret a photograph by evaluating the highlights and shadows, equal and unequal facial proportions, the specific form of the head, and the chief characteristics of each feature.
01.11	Identify and describe the norms of the head and face (direct and profile views), and each of the four facial features - identify four variations of these norms.
01.12	Classify and explain the principles of pigmentary (color) mixtures, and relate their application to cosmetic compounds and the influence of adjacent colors on one another in the funeral setting.
01.13	Name and locate three external body structures of the skull and explain how each influences surface form.
01.14	Identify and describe the use of various cosmetic and restorative materials and equipment.
02.0	Give evidence of an understanding of the sociological, psychological, spiritual, physical, and legal needs of the family and community, and

	how to meet those needs in the treatment, handling, and disposition of the dead human body–The student will be able to:	
	02.01	Describe the varieties of funeralization seen in major religious and ethnic sub-cultures and in fraternal and military groups in America.
	02.02	Relate contemporary sociological, theological, and philosophical thought to the matter of death, dying, bereavement and mourning in America.
	02.03	Discuss and illustrate the interplay in society of custom and contemporary funeralization practices.
	02.04	Distinguish among taboos, mores, folkways, customs, habits, laws, rites, rituals and ceremonies as sociological terms applied to American funerals.
	02.05	State significant changes in funeralization and embalming methods during the last half century.
	02.06	Describe the philosophies of death in different cultures.
03.0	Explain the concepts of death, disinfection, preservation and restoration of a dead human body–The student will be able to:	
	03.01	Explain the common types of death.
	03.02	Identify the physical states of matter and differentiate between physical and chemical changes.
	03.03	Identify essential characteristics of autolysis, hydrolysis fermentation, and putrefaction in the area of the chemistry of decomposition.
	03.04	Identify the essential characteristics of carbohydrates, lipids, and proteins in the area of basic biochemistry.
	03.05	Define organic chemistry and describe the characteristic features of aliphatic and cyclic compounds, hydrocarbons, alcohols, aldehydes, ketones, acids, esters, ethers, and amines.
	03.06	Identify and describe the prerequisites for specified restorative and cosmetic treatments.
04.0	Identify fundamental principles of personal and public health protection measures, and define the embalmer's obligation to this function–The student will be able to**:**	
	04.01	Explain the embalming-disinfection process as a public health procedure.
	04.02	Describe infectious processes and explain the methods of transmission and control of common infectious diseases, with special emphasis upon their applications to the environment of the embalmer, the funeral director, and the public.
	04.03	Identify and explain special treatments for cases involving common infections, traumatic and pathological conditions.
	04.04	Recognize the pathological conditions which require special procedures in the removal, handling, preparation and disposition of human remains.
	04.05	Apply infection control techniques according to Center for Disease Control (CDC) guidelines.
	04.06	Document the relationship between understanding normal structure and functions of the human body and development of Healthy living habits.
	04.07	Describe and demonstrate personal and environmental disinfection and decontamination procedures; explain proper use of major chemical disinfectants.

05.0	Identify, define, and employ the necessary technical terminology to facilitate communication and cooperation with members of allied professions and the public–The student will be able to:
05.01	Demonstrate the acquisition and understanding of anatomical terminology at a level that will enable him to communicate effectively with members of allied professions and the lay public.
05.02	Identify common laboratory procedures and the common units of scientific measurement.
05.03	Identify the characteristic features of solutions, suspensions, and emulsions, and the processes of diffusion including osmosis, dialysis and hydrolysis.
05.04	Identify a list of elements and their valences, radicals, ions, compounds and reactions related to problems faced by the embalmer and funeral director, and give their symbols, formulas, and equations.
05.05	Differentiate between the beneficial micro-organisms and the actual pathogens and opportunists commonly associated with both the living human host and dead human remains.
05.06	Demonstrate an understanding of host parasite relations and interactions, and the requirements for successful parasitism.
05.07	Identify host defense mechanisms and demonstrate general knowledge of innate, natural and active immunologic responses.
05.08	Identify basic bacterial and fungal morphology and physiology.
05.09	Advise lay persons about the benefits of organ, tissue, bone, and whole body donation upon request.
06.0	Give evidence of personal manifestations of continued professional growth through education and research–The student will be able to:
06.01	Identify the reasons one should cooperate in community programs for controlling disease and promoting medical research.
06.02	Give evidence of the appreciation of, and interest in, the human body as a subject for independent study and continuing intellectual growth.
07.0	Identify those common conditions surrounding death which may prove of potential concern to the forensic pathologist–The student will be able to:
07.01	Identify and explain those special conditions attending a death whereby notification of the death is required to be given to the proper official (such as Coroner, Medical Examiner, Public Health Officer, Veterans Administration, etc.).
07.02	Identify the technical manifestations of death which may be of medico-legal significance.
08.0	Take care of the dead in a manner which recognizes the inherent dignity of human-kind–The student will be able to:
08.01	Give evidence of respect for human remains.
08.02	Demonstrate acceptance of racial and cultural diversity.
09.0	Identify the privileges of and be able to, through professional practices, fulfill the responsibilities of licensure–The student will be able to:
09.01	Identify the privileges and their limitations accorded the licensee with regard to caring for the dead, and serving the living.
09.02	Identify the responsibilities of the funeral director to those who have called him with regard to:

	09.02.01	Providing services and merchandise as selected.
	09.02.02	Explaining the financial aspects of the funeral, and pricing method used.
	09.02.03	Explaining death benefits and/or burial allowances.
	09.02.04	Notifying the clergy of the death, if appropriate.
	09.02.05	Coordinating with the clergy on religious aspects of the funeral.
	09.02.06	Explaining merchandise and related representations regarding final disposition.
	09.02.07	Preparing a Statement of Goods and Services Selected pertaining to services, selected merchandise, supplemental items and cash advances.
	09.02.08	Explaining applicable laws, rules and regulations.
	09.02.09	Referring families for professional counseling as appropriate.
09.03	Identify the responsibilities of the funeral director to the profession with regard to:	
	09.03.01	Costs procedures, and communication when transferring human remains to another funeral establishment.
	09.03.02	Public education regarding funeralization.
09.04	Identify the responsibilities of the funeral director to the clergy in the matter of the policies, rules and regulations of religious institutions.	
09.05	Perform the following tasks applicable to the state in which he/she intends to gain a license:	
	09.05.01	State the limitations placed upon the practice of the funeral director/embalmer.
	09.05.02	Summarize the law, rules and regulations pertaining to:
	09.05.02.01	The transportation of the dead.
	09.05.02.02	Requirements and specifications of the funeral home, including the preparation room.
	09.05.02.03	Define terms specified in the license laws, rules and regulations.
	09.05.02.04	Identify the qualifications required of applicants for funeral director/mortician license.
	09.05.02.05	Identify the grounds for issuance, revocation, suspension or refusal to renew or issue licenses.
	09.05.02.06	Identify requirements for the conducting of funerals.
	09.05.02.07	Identify the procedures for filing a complaint concerning a violation of the licensing law.

	09.05.02.08 Identify provisions regarding reciprocity endorsement and emergency licensing.
10.0	Interpret and communicate the purposes, procedures, and values of funeral services–The student will be able to:
	10.01 Identify the purposes which the funeral serves for the family, friends, church, occupational associates, and community of the deceased.
	10.02 Identify the values of the funeral.
	10.03 Define common terms used in funeral services.
	10.04 Identify the psychological purposes and values of the funeral.
	10.05 Identify the sociological purposes and values of the funeral.
	10.06 Organize and be prepared to discuss the purposes and values of the funeral.
	10.07 Identify the philosophical purposes and values of funeral service.
11.0	Counsel people regarding funeralization–The student will be able to:
	11.01 Identify the major financial considerations that confront a bereaved family.
	11.02 Identify the times or situations during which a funeral director will make use of counseling.
	11.03 State the areas of counseling normally covered during funeralizations.
	11.04 Describe the process of funeralization.
	11.05 Describe contemporary opinions regarding psychology of death, grief, and bereavement.
	11.06 Describe how the manner and cause of death affects the psychological needs of the bereaved.
	11.07 List the information of importance to obtain during each type of counseling situation.
	11.08 Identify and appraise the basic personal and personality problems that may appear during counseling situations.
	11.09 Classify and analyze the various forms of funeral rites.
	11.10 Describe contemporary opinions regarding sociology of death, grief, and bereavement.
	11.11 Describe three or more types of counseling techniques applicable to funeral services and give reasons for the use of each in individual circumstances.
	11.12 Describe recent developments pertaining to the theologies of death, grief and bereavement.
	11.13 Describe the effects of the Uniform Anatomical Gift Act on funeralization.

	11.14	Identify and describe stages of dying.
12.0	Plan, implement, and direct a funeral according to the sociological, psychological and theological needs of the person being served–The student will be able to:	
	12.01	Develop a warm, friendly and tactful attitude towards the family at the first meeting.
	12.02	Identify the items of information which are necessary to complete the following forms:
	12.02.01	Obituary
	12.02.02	Death certificate via the Electronic Death Registration System (EDRS)
	12.02.03	Social Security forms (SSA, 719, SSA 721)
	12.02.04	Veteran's forms (Marker, Flag, Burial Allowance)
	12.02.05	Burial/Transportation permits
	12.02.06	Release/Authorization forms
	12.03	Identify the person(s) who are qualified to give permission for release of the deceased from a hospital, or to sign the hospital death record, if required.
	12.04	Identify the information to be secured from, and given to, the family upon initial family contact.
	12.05	Describe the multiple steps required between initial notification of death and removal of the deceased.
	12.06	Identify person(s) who qualify to authorize autopsy and embalming, and to approve the purpose and disclosure statement.
	12.07	Identify the items and considerations usually included in the arrangement conference.
	12.08	Identify the types of death certificates and their uses.
	12.09	Identify the appropriate times usually considered necessary to meet the funeral needs of those being served.
	12.10	Identify the consideration normally involved in setting the order for the processional and recessional of a funeral service including casket, casket bearer, children, clergy, friends, fraternal orders, funeral directors, honorary bearers, next of kin, relatives and service organization.
	12.11	Describe the multiple steps required between initial notification of death and removal of the deceased when the bereaved are not present at the time of death, regardless of the place or manner of death - including, but not limited to, the funeral director's determination of the need for a personal conference and/or counseling of the bereaved prior to the funeral arrangement conference.
	12.12	Identify the items of clothing ordinarily required for the deceased.
	12.13	Describe the proper techniques and equipment employed in the dignified removal of remains under diverse conditions.
	12.14	Identify the reasons which require a discussion involving the family, the officiating clergyman, and the funeral director regarding

	visitation hours, time of funeral, and other aspects of the service.	
12.15	Identify the purpose of the Burial-Transit Permit.	
12.16	Write obituary and death notices.	
12.17	Identify the purpose and content of pre-selection counseling.	
12.18	Identify the participants functioning in funeral service and explain their duties.	
12.19	Describe considerations involved in the dignified movement of casketed remains.	
12.20	State considerations for determining the order of the funeral procession.	
12.21	Coordinate a variety of committal rites when these are a part of a funeral.	
12.22	Identify the psychological and sociological value of the funeral arrangement conference.	
12.23	Identify methods of dealing with inter-personal conflicts among family members.	
12.24	Discuss dismissal procedures for leaving the grave site.	
12.25	Explain the problems involved in harmonizing the colors of caskets in the funeral setting.	
12.26	Describe the various types of floral arrangements and the considerations involved in their placement.	
12.27	Identify requirement/procedure pertaining to cremation, calcination and burial at sea.	
13.0	Identify and comply with the laws pertaining to funeral service practice and public health–The student will be able to:	
13.01	Identify legally:	
	13.01.01	The nature of the right of the funeral director to take custody of a dead body, and the length of time such custody may be exercised.
	13.01.02	The procedures for recovering the body.
	13.01.03	The theory governing the right to recover for mutilation of a body, and the reasons for recovery of damages when mutilation results from negligence.
	13.01.04	The duty of the funeral director regarding the personal effects of a decedent.
	13.01.05	The basis of a funeral director's liability for the negligence of a volunteer driver in a funeral procession.
	13.01.06	The legal duty of a funeral director regarding permits required by law.
	13.01.07	The reasons for legal limitation on a funeral bill charged against an estate where creditor's claims exceed the assets of the estate.

	13.01.08	How a testator may provide in their will for the payment of funeral expenses.
	13.01.09	The duty of the funeral director for compliance with the Federal Trade Commission Funeral Rules.
	13.01.10	The duty of the funeral director for compliance with the Magnuson-Moss Warranty Act (1975).
	13.01.11	The duty of the funeral director for compliance with the provisions of Federal Wage and Hour Laws.
13.02	Describe status of a funeral bill as a charge against the estate.	
13.03	Identify:	
	13.03.01	The conditions under which a funeral director must have permission before permitting an autopsy in their establishment, and state whether that permission may be qualified, restricted or revoked.
	13.03.02	The liability of an embalmer for shaving a beard, cutting hair or otherwise altering the appearance of a body.
	13.03.03	The legal duty of the funeral director regarding the personal effects of a decedent.
	13.03.04	The extent of control a funeral director has over a funeral, and their legal duties to those attending a funeral or viewing a body at their funeral home.
	13.03.05	The general rule in the determination of the validity of funeral expenses.
	13.03.06	Which items are allowable in a funeral bill and which items are not allowable.
	13.03.07	The legal basis for the modifications of the common law rule imposing liability upon the husband for the wife's funeral expenses.
	13.03.08	Under what legal basis a widow may be required to pay the funeral expense of her deceased indigent husband.
13.04	Identify:	
	13.04.01	The liability of a volunteer who individually contracts to pay a funeral bill.
	13.04.02	The liability of an executor, nominated personal representative, or administrator for funeral expenses.
	13.04.03	Why a funeral director should be familiar with the law of disinterment.
	13.04.04	The circumstances under which exhumation is permitted in criminal cases, and in civil cases.
	13.04.05	The usual procedure for obtaining a disinterment authorization, and the legal principles under which disinterment statutes are upheld.
	13.04.06	Who has the primary right to disinter a body, and the nature of the crime of disinterment without proper authorization.
	13.04.07	The grounds upon which a funeral home can be prohibited from further operation in a residential district.
	13.04.08	Whether a funeral home may be excluded from a sub-division by agreement of the property owners.

	13.04.09	The conditions under which a funeral home or cemetery may be considered a nuisance per se.
	13.04.10	Why the power of eminent domain may be invoked to acquire land for a public cemetery.
	13.04.11	The power under which cemeteries may be regulated by the state, and what specific action must be taken to convert land to cemetery use.
	13.04.12	The authority under which a private cemetery may enforce rules which control burial in it.
	13.04.13	Why the owner of a cemetery lot may not use it for purposes other than burial, and whether or not he has the right to decorate and mark the grave.
	13.04.14	Under what authority cemeteries are required to provide admittance to graves.
	13.04.15	What kind of offense the grave desecration is.
13.05	Identify:	
	13.05.01	The essentials of a valid contract.
	13.05.02	The reasons for maintaining death certificates.
	13.05.03	How the remains may be transported by common carrier.
	13.05.04	The legal consideration where persons die without medical attention.
	13.05.05	The general order of nearest of kin including all relatives.
	13.05.06	The legal implications of reasonable funeral expenses.
	13.05.07	Two reasons for filing an embalming report for each body prepared by the funeral home.
	13.05.08	The function of a court of equity.
	13.05.09	Two classes of bodies legally available for dissection.
	13.05.10	The legal doctrine regarding the photographing of a dead body.
	13.05.11	The privileges and limitations of one holding the power of attorney.
	13.05.12	The liability of the funeral director for the custody of the remains.
13.06	Describe the legal basis for funeral service licensure stating the legal obligation of funeral and its purpose.	
13.07	Identify:	
	13.07.01	The doctrine of Stare Decisis.

	13.07.02	Whether a dead body may be the subject of an action of replevin (holding a body for ransom).
	13.07.03	The authority of a ship’s Captain over dead bodies and any other applicable maritime laws or traditions.
	13.07.04	The restrictions on burials of those dying of a communicable disease.
	13.07.05	The conditions under which a dead body must be embalmed.
	13.07.06	The effect of the decedent's wishes with respect to exercising the right and duty of disposition.
	13.07.07	The proper position the funeral director should take when survivors of a decedent disputes the exercise of the right of disposition.
	13.08	Define cremation and be able to identify all authorizations required to maintain legality of the procedure including informed consent.
	13.09	Describe the rights of a party in controlling a funeral, and the rights of a party to attend a funeral.
	13.10	Define "funeral contract", and state the legality of funeral contracts made by a decedent prior to death.
	13.11	Describe the rights of the decedent in pre-arranging their own funeral.
	13.12	Describe the legal limitation imposed in pre-arrangement agreements.
	13.13	Describe the legal status of a dead body.
	13.14	Identify the legal theory governing the right to recover from mutilation of a body, and the reasons for recovery of damages when mutilation results from negligence.
	13.15	Identify the circumstances under which the state or one of its subdivisions is liable for funeral expenses.
	13.16	Define and give the purpose of a Coroner's/Medical investigator's inquest and inquiry.
	13.17	Identify the rules and regulations governing burial in a National Cemetery.
	13.18	Distinguish between the property and no-property theories of dead human bodies.
	13.19	Identify two sources from which the rights and duties of a funeral director are derived.
	13.20	Identify those steps a funeral director should take before building or purchasing a funeral home.
	13.21	Distinguish between cooperation, a partnership, and a proprietorship, and state the advantages and disadvantages of each.
	13.22	Identify two forms of legally binding sales contracts.
	13.23	Identify the conditions under which a note would be considered void.
14.0	Manage personnel, facilities, and other resources–The student will be able to:	

14.01	Answer the telephone properly.	
14.02	Receive initial contact information accurately and appropriately.	
14.03	Identify importance of:	
	14.03.01	The appearance and cleanliness of the funeral home, preparation room, funeral coach, limousine, and parking lot.
	14.03.02	The need for confidentiality of funeral home records, family records and financial data.
	14.03.03	Maintaining staff communications.
14.04	Identify the procedure for filing the death certificate at the proper agency and obtaining related permits if required.	
14.05	Identify equipment necessary for the removal of an adult, child or infant from a hospital, residence or other place of death.	
14.06	Identify all equipment appropriate for any funeral service.	
14.07	Identify the procedure for properly receiving those who make a visitation to the funeral home.	
14.08	Identify the procedures for dressing and casketing the remains.	
14.09	Identify the procedures for placing the deceased in a visitation room.	
14.10	Identify equipment needed to accomplish interment, inurnment, and entombment.	
14.11	Identify the procedures for the completion of insurance forms.	
14.12	Complete the recording of information in a register book.	
15.0	Apply business principles and practices to funeral service–The student will be able to:	
15.01	Prepare a financial memorandum pertaining to services provided, merchandise selected, cash advances, and supplemental items.	
15.02	Define and properly use the terminology associated with funeral merchandise, merchandise display, and funeral supplies.	
15.03	Identify, define, and describe the various types of outer enclosures.	
15.04	Differentiate between Functional, Unit, Bi-Unit and Itemization methods of quoting the price(s) of funeral service.	
15.05	Apply basic accounting principles in keeping mortuary records.	
15.06	Identify the major items of income and expenses which should be included in the budget of a funeral home.	
15.07	Define basic accounting terms.	

	15.08	Analyze financial data, make financial decisions, and recognize the effects of economies on existing funeral services.
	15.09	Identify the dual role of the funeral director, and list the major responsibilities of each role.
	15.10	Distinguish between the direct and indirect approaches in helping clients to select merchandise, and list the advantages and disadvantages of each method.
	15.11	Identify the insurance needs of a funeral director, and funeral service practice.
	15.12	Identify the application of the Federal Truth in Lending Act to funeral service.
	15.13	Identify the importance of purchase disclosures.
	15.14	Identify the applications of the Federal Wage and Hour Act to funeral service.
	15.15	Distinguish a cognovit from a promissory note.
16.0	Recognize the importance of inter-professional and intra-professional relationship and responsibilities–The student will be able to:	
	16.01	Identify common interest areas existing between funeral directors, florists, cemeterians, monument dealers, news media, the legal profession, the judiciary, hospital administrators, governmental agencies and local police.
	16.02	Identify common concerns inherent in physician-funeral director relationships.
	16.03	Name the major funeral director associations.
	16.04	Describe the structure and function of the International Conference of Funeral Service Examining Boards, Inc.
	16.05	Describe the structure of "multi-unit" funeral home organizations.
	16.06	Describe the structure and function of the Commission of Schools of the American Board of Funeral Service Education.
	16.07	Describe the structure and function of the American Board of Funeral Service Education.
	16.08	Describe the membership structure of the National Funeral Home Associations.
17.0	Recognize the procedures for becoming an active member of the community and participating in community affairs–The student will be able to:	
	17.01	Identify the necessary items to be considered in establishing a funeral home-public relations program.
	17.02	Distinguish between institutional and funeral home advertising and state the primary purpose of each.
18.0	Demonstrate and understanding of entrepreneurship–The student will be able to:	
	18.01	Define entrepreneurship.
	18.02	Describe the importance of entrepreneurship to the American economy.

18.03	List the advantages and disadvantages of business ownership.
18.04	Identify the risks involved in ownership of a business.
18.05	Identify the necessary personal characteristics of a successful entrepreneur.
18.06	Identify the business skills needed to operate a business efficiently and effectively.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The program must be accredited by the American Board of Funeral Service Educators and once completed a student may apply to the Division of Funeral, Cemetery and Consumer Services for their internship and to take the Florida Laws and Rules Exam to practice as a licensed embalmer or funeral director, according to Chapter 497 FS.

The intended outcomes are the same as the adopted curricular objectives of the American Board of Funeral Service Education which must be endorsed by accredited programs as curricular standards.

Upon completion of the associate in science in funeral service, graduates are qualified to write the National Funeral Service Board Examination. The program must be accredited by the American Board of Funeral Services Education, Inc., 14 Crestwood Road, Cumberland, Maine 04021 (207/829-5715) 497.000 F.S. ; 69K-15.002(1) F.A.C.

One year of internship is required in the State of Florida for the embalmer or the funeral director license. These internships may be served concurrently. Upon completion of the internship, students are eligible to write the Florida state examination for the embalmer and funeral director license.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Florida Funeral Director (0312030102) - 31 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Biotechnology Laboratory Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1341010100
Program Type	College Credit
Standard Length	61 credit hours
CTSO	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	19-4021 Biological Technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as Biotechnology Research Technicians, Biological Technicians (SOC Code 19-4021) or cell culture technicians or biotechnology manufacturing technician and/or to supply supplemental training for persons previously or currently employed in these occupation.

The content includes but is not limited to broad biology and chemistry concepts, algebraic and statistical analysis, basic microbiology concepts, biohazard and safety procedures, human anatomy and physiology or botany, core biotechnical laboratory techniques and industry workplace experience. It includes components designed to enhance critical thinking and technical communication skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 61 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate communication skills.
02.0 Demonstrate safety skills.
03.0 Demonstrate basic laboratory skills.
04.0 Demonstrate regulatory compliance.
05.0 Demonstrate appropriate decision making and problem solving techniques.
06.0 Demonstrate specific laboratory skills.
07.0 Demonstrate quality assurance/control.
08.0 Maintain facility and equipment.
09.0 Demonstrate knowledge and proper care/use of test animals/plants (optional)
10.0 Demonstrate Skills in Bioinformatics (optional)

Florida Department of Education
Student Performance Standards

Program Title: **Biotechnology Laboratory Technology**
CIP Number: **1341010100**
Program Length: **61 credit hours**
SOC Code(s): **19-4021**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate communication skills--The student will be able to:
01.01	Make professional oral and written presentations.
01.02	Comprehend and use correct scientific, technical and medical vocabulary.
01.03	Follow/analyze experimental and laboratory protocols.
01.04	Prepare identify and apply changes to control procedures.
01.05	Write or update manuals, SOP's protocols, reports and technical summaries.
01.06	Keep accurate laboratory records in notebooks or other approved mediums.
01.07	Perform computerized research and web searches, including, but not limited to Pub Med and identify basic reference resources in biotechnology, including, but not limited to original journal articles.
01.08	Recognize differences between primary scientific references and secondary information sources.
01.09	Perform basic applications in word processing, spread sheets, databases, presentations and project management.
01.10	Develop basic observational skills and related documentation strategies in written and oral form.
01.11	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
02.0	Demonstrate safety skills--The student will be able to:
02.01	Identify and maintain first aid supplies, eye wash station, emergency shower, co-worker contact, medical information, emergency protection, chemical hygiene plan and evacuation plan.
02.02	Follow correct safety procedures, guidelines and chemical hygiene plans.
02.03	Maintain required environmental health, safety, and laboratory training.

	02.04	Maintain a safe, uncluttered and clean work area.
	02.05	Handle, store, and dispose of hazardous materials per appropriate MSDS, other safety guidelines, Worker Protection Standards (WPS) and/or appropriate regulatory guidelines (i.e.. State, federal, local, accreditation, etc.).
	02.06	Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.
	02.07	Demonstrate procedures for declaring a laboratory emergency and/or responding with appropriate institutional procedures.
03.0	Demonstrate basic laboratory skills--The student will be able to:	
	03.01	Obtain and read protocol, test procedure, standard operating procedure (SOP), equipment manuals, and proper forms.
	03.02	Prioritize and perform multiple tasks in a timely manner, based upon priorities communicated by supervisor.
	03.03	Clean, organize and sterilize materials and laboratory instruments, when required.
	03.04	Organization of supply inventory; date/label reagents and store promptly upon arrival.
	03.05	Demonstrate knowledge of asepsis and practice procedures such as hand-washing and isolation.
	03.06	Use titration/pipetting techniques; measure volume/weights.
	03.07	Perform basic calculations, unit conversions, graphing of data and statistical analysis.
	03.08	Calculate and prepare dilutions series.
	03.09	Prepare solutions and reagents for laboratory use.
	03.10	Monitor physical properties of reagents, buffers, media and solutions and determine optimum conditions for use.
	03.11	Obtain and review appropriate procedures and test forms, prepare for laboratory inspections and respond to the reports.
	03.12	Collect and set up samples for analysis.
	03.13	Set up general laboratory tests, including, setup equipment and perform/document tests and results.
	03.14	Demonstrate knowledge of chemical cross-contamination control between reagents from weighing implements, storage containers and media.
	03.15	Make estimations and approximations and judge the reasonableness of the result.
04.0	Demonstrate regulatory compliance--The student will be able to:	
	04.01	Follow guidelines from the appropriate regulatory, accreditation, and/or certification agencies, such as FDA, OSHA, USDA, NIH, NR, DOT, EPA, CDC, ISO/IEC and NRC.
	04.02	Comply with principles using current Good Experimental Practices and quality improvement systems (e.g., GXP; GLP, GMP, GCP)

05.0	Demonstrate appropriate decision making and problem solving techniques--The student will be able to:
05.01	Identify decision to be made and compare alternatives.
05.02	Apply decision making skills in the workplace.
05.03	Make decisions based on accurate facts, data, and agreed-upon goals.
05.04	Evaluate the decision made.
05.05	Demonstrate ability to evaluate data and draw conclusions.
05.06	Diagnose problem, its urgency and causes, and documenting as appropriate.
05.07	Explore possible solutions to a problem and compare/contrast advantages.
05.08	Determine appropriate action, implement it and evaluate results.
06.0	Demonstrate specific laboratory skills--The student will be able to:
06.01	Perform various techniques associated with mammalian and/or insect cell culture, including isolation, maintenance, characterization, and storage of pure cultures.
06.02	Decontaminate and/or dispose of equipment, glassware, biologicals.
06.03	Perform microbiology skills, which may include but are not limited to, plating techniques, isolating and characterizing cell lines, propagating cell lines, and cryogenic techniques.
06.04	Perform various genetic engineering techniques including but not limited to, transformation, transfection of mammalian, insect, and/or bacterial cells.
06.05	Perform bioassays.
06.06	Perform immunological techniques, including but not limited to, enzyme-linked immunosorbent assays, use of monoclonal and polyclonal antibodies, and Western blot techniques.
06.07	Perform various molecular biology techniques, including but not limited to isolation, quantitation, amplification, electrophoresis and hybridization of both RNA and DNA and construction of recombinant vectors.
06.08	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
06.09	Perform various protein techniques including but not limited to, separation, isolation, characterization, quantitation, monitoring protein stability, gel electrophoresis, concentration (filter and dialyze), and conduct enzyme activity assays.
06.10	Perform chemical assays including but not limited to measuring turbidity, viscosity, density, quantitative analysis, distillation techniques, titration techniques, employing dyes and indicators, lyophilization and organic chemistry techniques.
06.11	Collect data, perform assays, and document results of laboratory instruments.
06.12	Demonstrate knowledge of instrument-based separation, including but not limited to various chromatography techniques and other separation methodologies (e.g.. FACS).

	06.13 Understand the principles underlying spectroscopic analysis.
07.0	Demonstrate quality assurance/control--The student will be able to:
	07.01 Perform quality tests and document results.
	07.02 Verify test standards and maintain QA records.
	07.03 Archive samples and documents.
	07.04 Inspect and verify integrity of product, procedure, and specimen.
	07.05 Understand the role of statistical trend analysis for the release of final product.
	07.06 Investigate complaints and take corrective action.
08.0	Maintain facility and equipment--The student will be able to:
	08.01 Monitor/record the environmental condition of the facility (e.g., growth chamber, laboratory, greenhouse, storage room, animal room, freezers or manufacturing site).
	08.02 Notify appropriate personnel if sampling indicates a problem.
	08.03 Clean work area according to SOPs.
	08.04 Label equipment.
	08.05 Check calibration and perform systems diagnostics
	08.06 Check and maintain equipment, logs and perform preventative maintenance tasks according to schedule and, operate laboratory equipment and instrumentation after familiarization with manuals and/or training.
09.0	Demonstrate knowledge and proper care/use of test animals/plants (optional) - The student will be able to:
	09.01 Demonstrate the special requirements of receiving and transporting animals.
	09.02 Demonstrate the role of separate in-process, quarantine and release areas
	09.03 Follow SOP regarding care, monitoring, and preparation of diets
	09.04 Follow SOP regarding cleaning, maintenance and sterilization of cages.
	09.05 Monitor animal health and keep health records/logs.
	09.06 Follow USDA/IACUC guidelines for animal care.
	09.07 Follow SOP regarding humane methods for properly restraining and handling animals

	09.08	Collect and process specimens; collect data and document result
	09.09	Perform various techniques associated with plant culture including but not limited to, grafting, cloning, and characterization.
	09.10	Perform maintenance of plants for optimal growth.
	09.11	Apply agrochemical safety.
	09.12	Maintain and monitor insect populations.
	09.13	Maintain plant growth media.
	09.14	Perform additional agribiotechnology skills such as inoculating plant and/or soil with biological materials, gathering pollen and bundle pollinate, applying plant pesticides safely.
10.0	Demonstrate Skills in Bioinformatics (optional) - The student will be able to:	
	10.01	Explain methods of DNA sequencing and explain parameters that measure DNA sequence quality.
	10.02	Identify DNA sequences using Basic Local Alignment Search Tool (BLAST).
	10.03	Discuss and give examples of single nucleotide polymorphisms (SNPs).
	10.04	Use appropriate software to design and test polymerase chain reaction (PCR) primer design
	10.05	Explain and demonstrate how to use National Center for Biotechnology Information (NCBI) databases.
	10.06	Perform advanced NCBI queries and align structures.
	10.07	Use appropriate software to elucidate molecular structures
	10.08	Explain the concept of phylogenetic trees and discuss structure function relationships.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals and Skills USA are the intercurricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Biotechnology Specialist (0626120101) – 19 credit hours

Biotechnology Laboratory Specialist (0341010101) – 30 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Surgical Services**
Career Cluster: **Health Science**

AS	
CIP Number	1351000002
Program Type	College Credit
Standard Length	64 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2055 Surgical Technologists 31-9093 Medical Equipment Preparers 31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of the program is to prepare students for employment in a specialized healthcare field.

The program focuses on a core program of broad transferable skills and stresses understanding and demonstration of the following elements for employment in a specialized health science career field. The program specialization component focuses on advanced technical skills in a chosen health care targeted occupation including the applicable healthcare technology and healthcare applications.

The content includes but is not limited to communication skills, leadership skills, human relations, interpersonal skills, legal and ethical responsibilities, employability skills, anatomy, medical terminology, microbiology and infection control, the health care organization, health, safety and quality, use and care of standard equipment and supplies, CPR/Heartsaver, and basic computer literacy.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 64 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate language arts knowledge and skills.
13.0 Solve problems using critical thinking skills, creativity and innovation.
14.0 Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.
15.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.

In addition, students will complete the objectives in one of the following specialization tracks:

Standards 16-26 must be completed by students specializing in the Central Sterile Processing Technologist track:

16.0 Describe supply distribution systems and the principles of inventory control.
17.0 Demonstrate the ability to recall and dispose of or reprocess sterile supplies.
18.0 Identify fundamentals of procurement skills.
19.0 Demonstrate the roles and responsibilities of the central supply worker.
20.0 Recognize basic principles of microbiology.
21.0 Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel.
22.0 Describe how central service is involved in controlling infections in hospitals.
23.0 Explain the purpose of occupational safety and health Act.
24.0 Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items.
25.0 Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers.
26.0 Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty.

Standards 27- 34 must be completed by students specializing in the Endoscopic Technician track:

27.0 Demonstrate central supply technician skills.
28.0 Demonstrate competencies in the core components of the endoscopy technician related to communication and interpersonal Skills.
29.0 Demonstrate an understanding of the basic sciences related to endoscopy.
30.0 Describe and practice safety measures in the endoscopy environment.
31.0 Perform patient care endoscopy procedures related to the endoscopy environment and describe methods for meeting patient's needs.
32.0 Demonstrate knowledge of the basic endoscopy skills necessary to function safely and effectively.
33.0 Demonstrate competencies in the core components of the endoscopy technician related to knowledge and skills.
34.0 Demonstrate competencies in the core components of the endoscopy technician related to legal and ethical responsibilities.

Standards 35- 43 must be completed by students specializing in the Surgical Technologist track:

35.0 Demonstrate central supply skills.
36.0 Use communication and interpersonal skills as related to surgical technology.
37.0 Demonstrate an understanding of the basic sciences related to surgical technology.
38.0 Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.
39.0 Describe and practice safety measures in the surgical environment.
40.0 Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs.
41.0 Demonstrate knowledge of the skills necessary to function safely and effectively.
42.0 Demonstrate knowledge of and assist with surgical procedures.
43.0 Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology.

Florida Department of Education
Student Performance Standards

Program Title: **Surgical Services**
CIP Number: **1351000002**
Program Length: **64 Credit Hours**
SOC Code(s): **29-2055, 31-9093, 31-9099**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
12.0	Demonstrate language arts knowledge and skills – The students will be able to:
	12.01 Locate, comprehend and evaluate key elements of oral and written information.
	12.02 Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.
	12.03 Present information formally and informally for specific purposes and audiences.
13.0	Solve problems using critical thinking skills, creativity and innovation – The students will be able to:
	13.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.
	13.02 Employ critical thinking and interpersonal skills to resolve conflicts.
	13.03 Identify and document workplace performance goals and monitor progress toward those goals.
	13.04 Conduct technical research to gather information necessary for decision-making.
14.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment – The students will be able to:
	14.01 Describe the nature and types of business organizations.
	14.02 Explain the effect of key organizational systems on performance and quality.

	14.03 List and describe quality control systems and/or practices common to the workplace.
	14.04 Explain the impact of the global economy on business organizations.
15.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives. – The students will be able to:
	15.01 Employ leadership skills to accomplish organizational goals and objectives.
	15.02 Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	15.03 Conduct and participate in meetings to accomplish work tasks.
	15.04 Employ mentoring skills to inspire and teach others.
	15.05 Analyze attributes and attitudes of an effective leader.
	15.06 Recognize factors and situations that may lead to conflict. .
	15.07 Demonstrate effective techniques for managing team conflict.
The following standards 16-26 are necessary for those completing the Central Sterile Processing Technologist Specialization Track:	
16.0	Describe supply distribution systems and the principles of inventory control -- The student will be able to:
	16.01 Define the benefits of inventory control.
	16.02 Describe the methods of inventory control.
	16.03 Compare the advantages and disadvantages of each distribution methods.
	16.04 Process a requisition marked "stat" - locate article, price, etc.
	16.05 Demonstrate the process of stock rotation.
	16.06 Identify the uses of sterility maintenance covers.
	16.07 Describe the processes for loaner instrumentation and equipment.
	16.08 Describe the process of product evaluation.
	16.09 Describe the procedures for tracking the usage of medical/surgical supplies, patient care equipment and specialty carts.
	16.10 Describe the procedures for documenting supply and equipment charges.
	16.11 Demonstrate the methods of case cart preparation and the utilization of preference cards.

17.0	Demonstrate the ability to recall and dispose of or reprocess sterile supplies -- The student will be able to:
	17.01 Explain the factors that affect how long a package can be considered safe for use.
	17.02 Explain the differences between event related, date related, and manufacturer recommendations.
	17.03 State the methods of determining expiration dates.
	17.04 List the steps in reprocessing outdated hospital packaged items.
	17.05 List conditions that would make a product unsafe for use
	17.06 Describe the use of tamper evident seals.
	17.07 Describe the methods of reprocessing.
	17.08 Identify standards and facility policies on reprocessing of single use items.
	17.09 Describe the process of recall for medical/surgical supplies.
18.0	Identify fundamentals of procurement skills -- The student will be able to:
	18.01 Describe procurement system.
	18.02 Communicate with other hospitals, facilities, or company representatives for procurement of supplies and equipment.
	18.03 Describe several different methods of procurement of supplies.
	18.04 Describe basics of receiving items, including documentation of receiving and release to other facilities.
19.0	Demonstrate the roles and responsibilities of the central supply worker. -- The student will be able to:
	19.01 Describes professional standards related to personal hygiene and dress codes.
	19.02 Identifies relevant federal, state, and local guidelines, standards and regulations.
	19.03 Describes the function and workflow of the sterile processing department.
	19.04 Apply ergonomic considerations and appropriate body mechanics for lifting, turning, pulling, pushing, and reaching.
	19.05 Apply policies and procedures related to sterile processing functions (safety, infection control, disaster control, disaster, MSDS, incident reports, etc).
	19.06 Describes importance of following device, equipment, instrument or supply manufacturer's instructions for processing, operation, and troubleshooting.
20.0	Recognize basic principles of microbiology -- The student will be able to:

	20.01 Describe terms related to microbiology and the control of microorganisms in central sterile processing departments.
	20.02 Identify the main categories of microorganisms.
	20.03 Describe the life functions of microorganisms.
	20.04 Describe conditions affecting the growth of bacteria.
	20.05 Describe special methods used to destroy harmful microorganisms on fomites in the environment.
	20.06 List the helpful microorganisms.
	20.07 Describe how the body controls the growth of pathogenic microorganisms.
	20.08 Identify pathogenic microorganisms commonly found in central service departments.
21.0	Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel -- The student will be able to:
	21.01 Identify word elements for medical terms.
	21.02 Relate anatomical concepts to orthopedic devices and other supplies and equipment issued by the CS Department.
22.0	Describe how central service is involved in controlling infections in hospitals -- The student will be able to:
	22.01 Describe nosocomial infections.
	22.02 Describe the types of isolation.
	22.03 Describe the organization and functions of CS.
	22.04 Describe the CS responsibilities for infection control and traffic patterns when in the operating room and other departments.
	22.05 Identify proper storage and transportation standards for supplies in the facility (receivables, sterile, clean, or contaminated).
	22.06 Describe the organizational patterns of health care facilities.
23.0	Explain the purpose of occupational safety and health Act -- The student will be able to:
	23.01 Describe how employees are protected under OSHA.
	23.02 Describe potential workplace hazards in CS. (wet floors, chemicals, fumes, gases, steam, electrical outlets, body fluids, microorganisms, sharps, and medical wastes.)
	23.03 Describe the role preventive maintenance plays in patient and personnel safety in the hospital.
	23.04 Explain the purpose of Florida's "Right to Know" law and its provisions.

	23.05 Describe the protocol for personal injury including the completion of incident/occupancy reports and follow up.
	23.06 Implement appropriate regulatory and accreditation agency patient safety guidelines.
24.0	Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items -- The student will be able to:
	24.01 Describe the importance of thorough cleaning to the overall objectives of making items safe for patient use.
	24.02 Explain the importance of following manufacturers' instructions in cleaning each item for reprocessing.
	24.03 Describe the levels of disinfection, the cleaning process and methods of disinfection for the environment, instruments, syringes, needles, rubber goods and equipment.
	24.04 Describe the mechanisms of action for each disinfection method including ultrasonic machines and washer/sterilizers..
	24.05 Describe the strategies for managing difficult to control microorganisms that require isolation techniques and specialized decontamination methods including Creutzfeldt-Jakob Disease (CJD). .
	24.06 Describe the factors affecting decontamination (water temperature, loading procedures, water impurities, opening and disassembling)
	24.07 Distinguish correct reprocessing policies related to single use, limited use, and reusable items.
	24.08 Describe decontamination methods for drill systems and batteries
	24.09 Describe the function of case cart washers, and alternative methods of cleaning.
	24.10 Describe the need for testing and monitoring all decontamination machines for proper function and cleaning agents.
	24.11 Explain the importance of using correct chemicals for cleaning in regards to water quality, PH, filters, softeners, enzymes, lubricants.
	24.12 Describe the types, characteristics, and uses of chemicals, solutions, and gases utilized for decontamination. (Detergents, disinfectants, enzymatics, germicides).
	24.13 Demonstrate the decontamination process for instruments, syringes, needles, rubber goods and equipment.
	24.14 Demonstrate flexible endoscopic leak testing, decontamination, and reprocessing.
	24.15 Demonstrates decontamination and proper handling of rigid scopes.
	24.16 Describes the methods of high level disinfection including manual and automated endoscopic reprocessor (AER).
	24.17 Describe the types of sterilizers and methods of sterilization.
	24.18 Describe the primary objectives in selecting the correct packaging materials for both the individual item and the sterilization method to be used.
	24.19 Describe the principles of packaging.
	24.20 Describe the characteristics of packaging materials in relationship to sterilization methods.

	24.21 Describe the principles of linen pack and tray construction/assembly.
	24.22 Describe the recommended labeling methodologies.
	24.23 Identify basic surgical procedure trays, instruments, supplies, and accessories.
	24.24 Explain the principles utilized when loading different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.25 Recognize equipment malfunction and list corrective actions.
	24.26 Demonstrate the wrapping of procedures trays, instruments and other supplies.
	24.27 Demonstrate loading of different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.28 Describe how sterile supplies should be handled.
	24.29 Demonstrate handling, transportation and storage of clean, sterile and nonsterile supplies and equipment.
25.0	Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers -- The student will be able to:
	25.01 Describe the types of sterilization, sterilization cycles, and parameters for each.
	25.02 Describe the importance of the manufacturer's recommendations for the safe operation of each type of sterilizer.
	25.03 Describe the methods of sterilization monitoring.
	25.04 Demonstrate the process of preparing and documenting the sterilizer load contents for each sterilizer correctly according to the manufacturer's recommendations.
	25.05 Demonstrate the operation, testing, and monitoring of sterilizers.
	25.06 Demonstrate the ability to interpret and document monitoring devices, printouts, and charts accurately for each sterilization system utilized.
	25.07 Identify the standards for, and facility policy regarding, frequency of monitoring for all sterilizers.
26.0	Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty. The student will be able to:
	26.01 Describe instrument terminology and identify the anatomy of surgical instruments (jaws, shanks, box locks, rings, etc.)
	26.02 Describe the types and functions of instruments.
	26.03 Describe the types of instrument construction.
	26.04 Demonstrate appropriate techniques for inspection and testing of instruments.
	26.05 Identify instrumentation and equipment by name and usage.

	26.06	Correctly label instrumentation and equipment.
	26.07	Demonstrate the methods of instrument identification, marking, and tracking of use.
	26.08	Demonstrate the assembly of various instrument sets and specialty equipment.
	26.09	Demonstrate the process regarding the manufacturer's recommendations for instrument and equipment care including handling, operation, maintenance, and troubleshooting.
The following standards 27-34 are necessary for those completing the Endoscopic Technician Specialization track:		
27.0	Demonstrate central supply technician skills. -- The student will be able to:	
	27.01	Apply the principles of medical and sterile asepsis to the processing and use of instruments, equipment and supplies.
	27.02	Apply infection control techniques following Center for Disease Control (CDC) guidelines.
	27.03	Inspect equipment and supplies for condition and quantity.
	27.04	Identify principles and demonstrate techniques of disinfection and sterilization.
	27.05	Decontaminate instruments, equipment and environment.
	27.06	Identify/correct and/or report package integrity.
	27.07	Replenish supplies and equipment.
	27.08	Identify instruments, equipment and supplies for any procedure.
	27.09	Demonstrate the ability to label, package goods and supplies as required.
	27.10	Demonstrate various storage, case cart preparation and supply distribution methods for instruments, equipment and supplies.
	27.11	Describe the types and use of inventory control systems.
28.0	Demonstrate competencies in the core components of the endoscopy technician related to communication and interpersonal Skills -- The student will be able to:	
	28.01	Use various forms of communication in the role of Endoscopy Technician to communicate relevant, accurate and complete information in a concise and clear manner.
	28.02	Collaborate with the patient, physician, and other members of the Healthcare team to assess, plan, implement, and evaluate the patient's endoscopy care to promote positive outcomes.
	28.03	Demonstrate proper use of communication technology including but not limited to intercoms, computers, written documentation logs and paging systems.
	28.04	Demonstrate patient interviewing techniques.

	28.05 Facilitate teamwork as a patient advocate and assistant to the physician.
	28.06 Demonstrate competency regarding reporting and documentation responsibilities.
29.0	Demonstrate an understanding of the basic sciences related to endoscopy--The student will be able to:
	29.01 Apply knowledge of the microbial environment to the care of the patient.
	29.02 Relate anatomy, physiology and pathophysiology, to endoscopy procedures.
	29.03 Apply the principles of medical and surgical asepsis to endoscopy procedures performed.
	29.04 Discuss electricity, computers, and robotics as they relate to endoscopy procedures performed.
	29.05 Apply knowledge of the pharmacologic agents used in the treatment of the endoscopy patient.
30.0	Describe and practice safety measures in the endoscopy environment--The student will be able to:
	30.01 Inspect emergency equipment and supplies for condition and quantity.
	30.02 Implement appropriate Joint Commission patient safety goals.
	30.03 Apply knowledge of endoscopy hazards to safe patient care.
31.0	Perform patient care endoscopy procedures related to the endoscopy environment and describe methods for meeting patient's needs--The student will be able to:
	31.01 Perform safe patient transfer/transportation techniques used in the endoscopy unit setting.
	31.02 Apply the principles of safe positioning and restraining patient for endoscopy procedures.
	31.03 Apply the principles of safe usage of the electrosurgical unit, laser, endoscopes, and other equipment utilized.
	31.04 Identify the roles of the members of the endoscopy team during each phase of endoscopy procedures.
	31.05 Assist the registered nurse and physician with the care of the endoscopy patient.
	31.06 Apply the principles of patient assessment and preparation.
	31.07 Describe the perioperative techniques, methods and management of anesthesia related to the type of endoscopy procedure.
	31.08 Apply knowledge of endoscopy assisting techniques such as splinting and assisting with specimens.
32.0	Demonstrate knowledge of the basic endoscopy skills necessary to function safely and effectively--The student will be able to:
	32.01 Demonstrate an understanding of the gastrointestinal system, respiratory system and relevant disease processes.

	32.02	Select instruments, equipment and supplies for endoscopy procedures using physician preference/procedure cards.
	32.03	Measure and pour sterile solutions and medications.
	32.04	Differentiates appropriately the use of medical aseptic and/or sterile technique regarding the donning of sterile gloves and the use of instruments, supplies and equipment for the scenario given.
	32.05	Describes the principles of positioning, draping patient, passing instruments, monitoring field and manipulation of scope.
	32.06	Demonstrates the preparation and/or updates procedure cards to meet a specific surgeon's preferences correctly.
33.0	Demonstrate competencies in the core components of the endoscopy technician related to knowledge and skills -- The student will be able to:	
	33.01	Prioritize care or actions to be taken in a given circumstance to expedite the procedure or emergency situation.
	33.02	Describe preoperative diagnosis, common complications, and operative pathophysiology related to the specific endoscopy procedures performed.
	33.03	Describe and apply common patient diagnostic and monitoring devices as applicable to the endoscopy specialty.
	33.04	Assist physician and/or healthcare team with preoperative preparation of the patient to facilitate proper patient care including but not limited to positioning, draping, and setup preparation.
	33.05	Identify gross anatomical structures correctly during endoscopy procedures.
	33.06	Demonstrate appropriate tissue handling techniques including the care of the endoscopy specimens.
	33.07	Describe the appropriate sequence for common endoscopy procedures.
	33.08	Utilize appropriate techniques to assist with facilitating visualization.
	33.09	Demonstrate appropriate safe endoscopy techniques when the case involves either thermal, radiological, laparoscopic, environmental, or other known endoscopy hazard.
	33.10	Select appropriate instruments, equipment and supplies for the procedure.
	33.11	Demonstrate competence with technology including the use of instruments, equipment and supplies for the endoscopy procedure.
	33.12	Assist the registered nurse and physician with postoperative care of the patient to facilitate proper patient care.
	33.13	Demonstrate appropriate response to emergency situations including respiratory/cardiac arrest situations, sudden hypoxia, hemorrhage, shock, endoscopy misadventures, contamination, perforation of viscous or cavity, critical equipment failure, and injury.
	33.14	Facilitate the continuity of care within the healthcare setting to access available resources and services.
34.0	Demonstrate competencies in the core components of the endoscopy technician related to legal and ethical responsibilities --The student will be able to:	
	34.01	State methods, standards and aids that assist an Endoscopy Technician with interpreting and following legal responsibilities.

	34.02 Explain the job requirements.
	34.03 Demonstrate an understanding of the legal, ethical, moral, and professional responsibilities of working as an endoscopy technician, and the professional skills necessary to fulfill the role.
	34.04 Provide health care within the ethical/legal framework of the job description including role responsibilities and limitations.
The following standards 35-43 are necessary for those completing the Surgical Technologist Specialization Track:	
35.0	Demonstrate central supply skills. –The student will be able to:
	35.01 Apply the principles of medical/surgical asepsis including attire, environmental control and traffic patterns to control and manage dirty, clean and sterile areas of the operating room and central supply.
	35.02 Apply infection control techniques following Center for Disease Control (CDC) guidelines.
	35.03 Inspect and send out for repair instruments, equipment and supplies regarding condition and quantity.
	35.04 Describe the methods of disinfection and sterilization.
	35.05 Demonstrate the handling, inspection and notification process regarding package integrity.
	35.06 Demonstrate correctly decontamination techniques for instruments, equipment, and the environment used for surgical procedures.
	35.07 Describe clean and sterile transportation, restocking, and storage principles for instruments, supplies and equipment.
	35.08 Identify instruments, supplies and equipment for any surgical procedure.
	35.09 Describe various supply distribution and inventory control methods.
	35.10 Demonstrate ability to prepare and label items for high level disinfection and sterilization correctly.
	35.11 Demonstrate the techniques of high level disinfection and sterilization for immediate use items.
	35.12 Demonstrate case cart preparation and management.
36.0	Use communication and interpersonal skills as related to surgical technology. – The student will be able to:
	36.01 Describe various forms of communication in the role of surgical technologist.
	36.02 Analyze and select the appropriate behavioral response unique to the patient's needs.
	36.03 Describe the concepts of conflict resolution, assertive behavior and the principles of teamwork in the surgical environment.
37.0	Demonstrate an understanding of the basic sciences related to surgical technology. – The student will be able to:
	37.01 Describe the concepts of microbiology and relate key principles to the surgical environment.

	37.02	Compare and contrast the structure and characteristics of microorganisms found in the surgical environment.
	37.03	Relate medical terminology, medical abbreviations, and anatomy and physiology to surgical specialties and specific procedures.
	37.04	Analyze patient defense mechanisms, the chain of infection and the infectious process as related to surgical practice.
	37.05	Demonstrate infection and disease transmission control techniques following the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) guidelines for surgery.
	37.06	Correlate wound classifications and wound healing principles with wound management guidelines.
	37.07	Discuss the principles of information technology, electricity and robotics as they relate to surgery.
38.0	Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.-The student will be able to:	
	38.01	Describe the roles of the anesthesia provider and circulating nurse.
	38.02	Analyze the administration of anesthesia including the methods, agents, and techniques.
	38.03	Describe the preoperative examination and preparation process for both surgery and anesthesia.
	38.04	Describe potential anesthesia and operative complications and interventions for each.
	38.05	Define the terminology and describe the basic concepts of pharmacology including pharmacokinetics and pharmacodynamics.
	38.06	Identify the classifications, actions, effects and precautions for common drugs used at the sterile field and within the surgical environment.
	38.07	Demonstrate the application of the six rights of medication administration.
	38.08	Analyze and assemble correctly all medication supplies, for each drug to be used on the sterile field.
	38.09	Demonstrate the appropriate methods of transferring and accepting medications onto the sterile field.
	38.10	Prepare, manage and label sterile solutions and medications accurately within the sterile field.
	38.11	Correctly calculate common medication conversions and dosages.
	38.12	Demonstrate preparation and passing of medication mixtures using ratio and proportions correctly. .
	38.13	Maintains an accurate account of the amount of each medication and/or solution used at the field and notifies circulator as appropriate to the situation to ensure accurate documentation.
39.0	Describe and practice safety measures in the surgical environment. – The student will be able to:	
	39.01	Describe the role, job duties and responsibilities of the surgical technologist in the healthcare setting.
	39.02	Inspect emergency equipment and supplies for condition and quantity.

	39.03	Demonstrate appropriate safety measures to prevent operating room fires and electrical shock from equipment. .
	39.04	Describe appropriate safety measures for laser and electrosurgical unit usage in surgery.
	39.05	Implement appropriate regulatory and accreditation agency patient safety guidelines
	39.06	Describe the role of the surgical technologist in a disaster situation.
	39.07	Describe the role of the surgical technologist in an emergency patient situation.
	39.08	Prepare the operative site.
	39.09	Perform steps for Foley catheter insertion and connecting to drainage correctly.
40.0	Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs. – The student will be able to:	
	40.01	Demonstrate patient transfer/transportation techniques used in the operating room (OR).
	40.02	Describe appropriate review of the chart including preoperative identification, preoperative checklists, diagnostic tests, lab values and surgical consent.
	40.03	Monitor OR traffic, placement of sterile tables and ensure steps are taken to reduce microbial fallout.
	40.04	Assist with positioning and apply safety devices correctly to the patient for surgery.
	40.05	Describe the function, assembly, application and care of critical specialty equipment utilized. .
	40.06	Correlate anesthesia monitoring devices, patient complications and interventions with maintaining patient homeostasis.
	40.07	Demonstrate correctly the connection and operation of essential equipment for the surgical procedure.
	40.08	Demonstrate applicable wound management principles including the placement and security of catheters, wound drainage systems, sterile dressings and splint applications.
	40.09	Discuss relevant and unique factors regarding postoperative care specific to the procedure.
41.0	Demonstrate knowledge of the skills necessary to function safely and effectively. – The student will be able to:	
	41.01	Demonstrate the use of various forms of communication in the role of surgical technologist.
	41.02	Maintain current documentation in the clinical setting relative to the surgical technologist role.
	41.03	Demonstrate proper use of the communication systems.
	41.04	Select and verify required instrumentation, equipment and supplies, including any implants needed for specific surgical procedures using core knowledge and the applicable surgeon preference/procedure cards.
	41.05	Demonstrate the surgical scrub and donning of sterile gown and gloves.

	41.06	Demonstrate application of aseptic and sterile technique principles including the appropriate corrective action for common breaks in sterile technique.
	41.07	Demonstrate proper draping of tables, solution stands, mayo stand, patient and equipment.
	41.08	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).
	41.09	Select suture and needle appropriately for each scenario given based on function and type.
	41.10	Prepare, pass and monitor sharps, sutures, ligatures, ties and staples.
	41.11	Demonstrate assisted gowning/gloving for surgeon and other sterile team members.
	41.12	Participate in the surgical time out to prevent wrong site surgery and delays in the surgical procedure.
	41.13	Prepare and pass instruments, equipment, tissue replacement materials, implants and supplies efficiently.
	41.14	Monitor the surgical site regarding counted items, stage of surgery, tissue appearance and patient's body fluids.
	41.15	Demonstrate correctly the initiation and completion of counts regarding sponges, sharps, instruments and miscellaneous items used within the patient's wound to prevent foreign body retention.
	41.16	Demonstrate ability to maintain retraction, cut suture, provide retraction and hold instruments in the second assistant role as directed by the surgeon.
	41.17	Demonstrate ability to prepare, validate, handle and preserve specimen on and off the sterile field accurately for laboratory analysis.
42.0	Demonstrate knowledge of and assist with surgical procedures. – The student will be able to:	
	42.01	Correlate the preoperative diagnosis, diagnostic interventions, common complications, and operative pathophysiology relative to specific surgical procedures.
	42.02	Describe the types of incisions, methods of wound closure, and mechanisms of wound management.
	42.03	Describe the usual sequence of a common surgical procedure (i.e. incision into the anatomy, dissection of the anatomy, operative steps of the procedure, and closing of the anatomy.)
	42.04	Select the appropriate instrument, equipment, or supply for each step of the procedure.
	42.05	Demonstrate effective perioperative case management ensuring cost control and time/motion economy methods are utilized to maximize the efficiency of the OR team.
43.0	Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology. – The student will be able to:	
	43.01	State methods, standards and aids that assist a surgical technologist with interpreting and following legal responsibilities.
	43.02	Provide health care within the ethical/legal framework of the surgical technologist's role.
	43.03	Describe the principles of problem solving and confidentiality in ethical decision making and risk management.

43.04 Describe the key qualities related to the development of a surgical conscience.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

The Human Patient Simulator (HPS) or other accepted simulation scenarios may be used for a limited number of clinical hours. A low teacher-student ratio in the lab and clinical area is strongly recommended. The recommended maximum ratio is 1:8.

Special Notes

Specialization Track Descriptions:

Specialization Track: **Central Sterile Processing Technologist**
Specialization Length: **30 credit hours**

Specialization Concepts and Content: The purpose of this track is to prepare students for initial employment with an occupational title as a Central Sterile Processing Technician in various specialized areas, or to provide supplemental training for persons previously or currently employed in these occupations.

Specialization Track: **Endoscopic Technician**
Specialization Length: **24 credit hours**

Specialization Concepts and Content: The purpose of this track is to prepare students for initial employment with an occupational title as Endoscopic or Gastrointestinal Lab (GI Lab) Technician in various specialized areas, or to provide supplemental training for persons previously or currently employed in these occupations.

Specialization Track: **Surgical Technologist**
Specialization Length: **49 credit hours**

Specialization Concepts and Content: The purpose of this track is to prepare students for initial employment with an occupational title as a Surgical Technologist in various specialized areas, or to provide supplemental training for persons previously or currently employed in these occupations.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health

The Specialization Core Curriculum should be taught by qualified staff as outlined in the most recent approved Commission on Accreditation on Allied Health Education programs (CAAHEP) or other national recognized accreditation standards and guidelines for that specialization.

Entering students who have successfully completed the program 0317.021100, Surgical Technology or currently Nationally Certified as a CST (Certified Surgical Technologist), should be given appropriate advanced standing.

After successful completion of an accredited program, students are eligible to take the national certification examination as applicable to the specialization.

The standard length for the AS degree program is 64 college credits.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Central Sterile Processing Technologist, 0351090903– 30 Credits
Endoscopy Technician, 0351099902 – 24 Credits
Surgical Technologist, 0351090904 – 49 Credits

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Assisting Technology and Management**
Career Cluster: **Health Science**

AS	
CIP Number	1351060104
Program Type	College Credit
Standard Length	70 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9091 Dental Assistants

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as dental assistants 66002 (SOC code 31-9091), dental auxiliaries as practice managers, educational managers for dental companies, and dental assisting educators. The program will prepare students for the Dental Assisting National Board Examination as well as state requirements. The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association and standards recommended by the Florida Board of Dentistry.

The content includes but is not limited to dental and general anatomy, dental terminology, nutrition, microbiology, dental pharmacology and anesthesia, chairside assisting, expanded functions, dental office emergencies/CPR, dental radiography, maintenance and asepsis of dental operatory and instruments, dental instrument and equipment utilization, dental specialty procedures, basic dental laboratory procedures, dental materials, preventive dentistry, employability skills, leadership and human relations skills, ethics and jurisprudence, dental office and patient management, general studies, physical sciences, business principles, educational leadership, and communication skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 70 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the dental health care delivery system and dental health occupations
02.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas
03.0 Describe the legal and ethical responsibilities of the dental health care worker
04.0 Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts
05.0 Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance
06.0 Recognize and respond to emergency situations
07.0 Use information technology tools
08.0 Explain the importance of employability skills
09.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS
10.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives
11.0 Use dental terminology.
12.0 Identify structures and explain functions and pathologies of dental and general head and neck anatomy.
13.0 Identify principles of microbiology and disease prevention and perform infection control procedures.
14.0 Identify, describe, maintain and utilize dental instruments and equipment.
15.0 Record patient assessment and treatment data.
16.0 Identify the functions of pharmacology and anesthesia as they relate to dentistry
17.0 Identify and perform dental and carpal radiographic procedures.
18.0 Identify properties and uses, and manipulate dental materials.
19.0 Perform chairside assisting for general dentistry and specialty procedures.
20.0 Describe principles and perform techniques of preventive dentistry.
21.0 Perform general dental business office procedures.
22.0 Demonstrate professionalism as a dental team member in the clinical setting.

The following Standards are Specialty Options:

23.0 Demonstrate skills for educational methodologies and strategies.
24.0 Demonstrate skills necessary for marketing, sales, and educational programs for dental products.
25.0 Demonstrate knowledge of dental practice set up and management procedures.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Assisting Technology and Management**
CIP Number: **1351060104**
Program Length: **70 credit hours**
SOC Code(s): **31-9091**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate knowledge of the dental health care delivery system and dental health occupations – The student will be able to:
01.01	Identify the basic components of the dental health care delivery system including public, private, government and non-profit.
01.02	Describe the various types of dental health care providers and the range of services available.
01.03	Describe the composition and functions of a dental health care team
01.04	Identify the general roles and responsibilities of the individual members of the dental health care team.
01.05	Identify the roles and responsibilities of the consumer within the dental healthcare system.
01.06	Explain the cause and effects of factors that influence the current delivery system of dental healthcare.
01.07	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on the dental healthcare delivery system.
01.08	Discuss the history of dentistry.
02.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas – The student will be able to:
02.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
02.04	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writing
02.05	Recognize components of medical and dental terminology and abbreviations.
02.06	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relation

	02.07 Recognize the importance of patient education regarding dental and health care.
	02.08 Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic religious groups.
	02.09 Identify psychological considerations influencing communication and behaviors.
03.0	Describe the legal and ethical responsibilities of the dental health care worker – The student will be able to:
	03.01 Identify areas of Florida Statute 466 and Rule 64B5-16 FAC and Rule 64B5-25 FAC applicable to practice by the dental health worker
	03.02 Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03 Demonstrate procedures for accurate documentation and record keeping.
	03.04 Interpret healthcare facility policy and procedures.
	03.05 Explain the patients' "Bill of Rights."
	03.06 Identify and implement standards of the Health Insurance Portability and Accountability Act (HIPAA).
	03.07 Distinguish between express, implied and informed consent.
	03.08 Explain the laws governing harassment, labor and employment.
	03.09 Differentiate between legal and ethical issues in dentistry.
	03.10 Describe a Code of Ethics consistent with the dental assisting profession.
	03.11 Identify and compare personal, professional and organizational ethics.
	03.12 Recognize the limits of authority and responsibility of dental health care workers including legislated scope of practice.
	03.13 Recognize and report illegal and/or unethical practices of dental health care workers.
	03.14 Recognize and report abuse including domestic violence and neglect.
	03.15 Identify resources to victims of domestic violence.
	03.16 Explain risk management.
04.0	Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts – The student will be able to:
	04.01 Develop a basic understanding of the structure and function of the body systems
	04.02 Identify common disorders related to each of the body systems.

	04.03 Explain basic concepts of positive self-image, wellness and stress.
	04.04 Develop a wellness and stress control plan that can be used in personal and professional life.
05.0	Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance – The student will be able to:
	05.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	05.02 Identify and describe methods in medical error reduction and prevention in the dental healthcare setting.
	05.03 Demonstrate an understanding of personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.04 Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
	05.05 Demonstrate procedures for the safe transport and transfer of patients.
	05.06 Describe fire safety, disaster and evacuation procedures.
	05.07 Explain emergency procedures to follow in response to workplace accidents.
	05.08 Demonstrate handwashing and the use of personal protective equipment used in dentistry.
06.0	Recognize and respond to emergency situations – The student will be able to:
	06.01 Take and record vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
07.0	Use information technology tools – The student will be able to:
	07.01 Define terms and demonstrate basic computer skills.
	07.01.01 Interpret information from electronic medical documents.
08.0	Explain the importance of employability skills – The student will be able to:
	08.01 Identify personal traits or attitudes desirable in a member of the healthcare team.
	08.02 Exemplify basic professional standards of dental healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	08.03 Maintain a career portfolio to document knowledge, skills, and experience.
	08.04 Write an appropriate resume.

	08.05	Conduct a job search and complete a job application form correctly.
	08.06	Demonstrate competence in job interview techniques.
	08.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	08.08	Examine licensing, certification, and industry credentialing requirements.
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS – The student will be able to:	
	09.01	Recognize emerging diseases and disorders.
	09.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	09.03	Identify "at risk" behaviors that promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	09.04	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	09.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	09.06	Demonstrate knowledge of the legal aspects of AIDS, including testing.
10.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives – The students will be able to:	
	10.01	Analyze attributes and attitudes of an effective leader.
	10.02	Recognize factors and situations that may lead to conflict.
	10.03	Demonstrate effective techniques for managing team conflict.
Students completing the following intended outcomes (11-22) meet the requirements of the Dental Assisting Technology and Manageme program 66002 (SOC Code 31-9091)		
11.0	Use dental terminology -- The student will be able to:	
	11.01	Identify and define common dental terms.
	11.02	Demonstrate the use of proper dental terminology in the dental environment.
12.0	Identify structures and explain functions and pathologies of dental and general head and neck anatomy -- The student will be able to:	
	12.01	Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, lymph nodes, nerves, and blood vessels.
	12.02	Identify embryonic development of head, oral cavity, and teeth.

	12.03	Identify teeth and their landmarks, and the morphological characteristics of each individual tooth.
	12.04	Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.
	12.05	Recognize and describe oral pathological conditions, related to the teeth and their supporting structures.
	12.06	Recognize and describe developmental anomalies related to the teeth, face, and oral structures.
	12.07	Describe and differentiate between normal and malocclusion.
	12.08	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the oral cavity.
13.0	Identify principles of microbiology and disease prevention and perform infection control procedures -- The student will be able to:	
	13.01	Differentiate between pathogenic and non-pathogenic microorganisms.
	13.02	Describe pathogens and modes of disease transmission.
	13.03	Differentiate between aseptic and non-aseptic environments.
	13.04	Describe and apply methods of cleaning, disinfection, and sterilization.
	13.05	Identify chemicals and their uses for controlling the spread of disease in the dental environment
	13.06	Identify and practice the current CDC guidelines for infection control in dental healthcare settings.
	13.07	Describe the duties of the dental office safety coordinator
	13.08	Demonstrate compliance with the OSHA Blood Borne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.
	13.09	Identify and manage hazardous chemicals and biomedical wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200), 64E-16 F.A.C., and Environmental Protection Agency regulations.
	13.10	Define principles of infection control including standard and transmission based precautions.
	13.11	Demonstrate knowledge of dental asepsis
	13.12	Implement appropriate handwashing procedures and use of protective barriers
	13.13	Demonstrate knowledge of surgical asepsis and isolation.
14.0	Identify, describe, maintain and utilize dental instruments and equipment.--The student will be able to:	
	14.01	Identify various types, functions and operations of dental operatory and laboratory equipment.
	14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.

	14.03 Maintain dental operatory equipment and instruments.
	14.04 Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.
	14.05 Seat and dismiss patients.
	14.06 Operate oral evacuation devices and air/water syringe.
	14.07 Maintain a clear field of vision including isolation techniques.
	14.08 Perform a variety of instrument transfers to include four-handed dentistry.
	14.09 Utilize appropriate chairside assistant ergonomics.
15.0	Record patient assessment and treatment data -- The student will be able to:
	15.01 Take and record medical-dental histories.
	15.02 Record assessment of existing oral conditions.
	15.03 Record conditions diagnosed by the dentist.
	15.04 Record treatment-related data on the patient's clinical record
	15.05 Record treatment plan and treatment in patient's chart
	15.06 Perform a visual assessment of existing oral conditions.
	15.07 Distinguish between and report subjective and objective information.
	15.08 Report relevant information in order of occurrence.
16.0	Identify the functions of pharmacology and anesthesia as they relate to dentistry -- The student will be able to:
	16.01 Identify drug requirements, agencies, and regulations.
	16.02 Distinguish among the five schedules of controlled substances.
	16.03 Record a drug prescription in a patient's chart.
	16.04 Utilize ratios and proportional problems to calculate prescribed drug dosages.
	16.05 Identify drug actions, side effects, indications and contraindications; verify with Physician's Desk Reference (PDR) or its equivalent.
	16.06 Identify common drugs used in dentistry.

	16.07 Prepare and apply topical anesthetic agent.
	16.08 Identify properties of anesthetics.
	16.09 Prepare syringes for the administration of local anesthetics.
	16.10 Monitor and identify precautions in the use of nitrous oxide-oxygen conscious sedation.
	16.11 Calculate the percentage of nitrous oxide-oxygen delivered during a conscious sedation procedure.
	16.12 Identify drugs and agents used for treating dental-related infection
	16.13 Identify and respond to dental office emergencies
17.0	Identify and perform dental and carpal radiographic procedures -- The student will be able to:
	17.01 Describe history, physics and biological effects of ionizing radiation.
	17.02 Identify parts of the X-ray machine including accessories.
	17.03 Demonstrate radiologic health protection techniques.
	17.04 Describe dark room/processing procedures, mix solutions.
	17.05 Describe the proper disposal of hazardous radiographic waste.
	17.06 Place and expose dental radiographic films or phosphors and digital sensors.
	17.07 Perform extraoral and carpal radiography as required for dental diagnostic procedures.
	17.08 Identify radiographic anatomical landmarks and pathologies.
	17.09 Mount radiographic surveys.
	17.10 Describe how to maintain unexposed film inventory and storage.
	17.11 Maintain digitally acquired radiographic images.
18.0	Identify properties and uses, and manipulate dental materials -- The student will be able to:
	18.01 Identify properties and uses and manipulate gypsum.
	18.02 Identify properties and uses and manipulate restorative materials.
	18.03 Identify properties and uses and manipulate dental cements.

	18.04	Place and remove matrices as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.05	Place and remove temporary restorations as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.06	Identify properties and uses and manipulate impression materials.
	18.07	Make intraoral impressions as permitted by Florida Statute and Florida Board of Dentistry Rule.
	18.08	Identify properties and uses and manipulate acrylics and thermoplastics.
	18.09	Identify properties and uses and manipulate waxes.
	18.10	Perform dental laboratory procedures to include the fabrication of casts, custom trays, and temporary crowns and bridges.
	18.11	Identify and manage hazardous dental materials and wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200) and Environmental Protection Agency regulations.
	18.12	Employ measurements of time, temperature, distance, capacity, and mass/weight during the manipulation of dental materials.
19.0	Perform chairside assisting for general dentistry and specialty procedures. The student will be able to:	
	19.01	Describe procedures, equipment, materials, and instrumentation used in the dental specialties to include but not limited to periodontics, endodontics, pedodontics, oral surgery, orthodontics, and prosthodontics.
	19.02	Assemble tray set-ups for general and specialty dental procedures.
	19.03	Assist in general and specialty dental procedures.
	19.04	Perform patient education to include pre- and post-operative instructions as prescribed by a dentist.
	19.05	Describe procedures, equipment, and materials utilized in digital dentistry to include CAD/CAM Technology.
20.0	Describe principles and perform techniques of preventive dentistry -- The student will be able to:	
	20.01	Provide patient preventive education and oral hygiene instruction.
	20.02	Prepare and set up for various preventive procedures.
	20.03	Identify properties and uses of abrasive agents used to polish coronal surfaces and appliances.
	20.04	Perform coronal polish and apply anticariogenic and desensitizing treatments as permitted by Florida Statute and Florida Board of Dentistry Rule.
	20.05	Clean and polish removable dental appliances.
	20.06	Assist with and place dental dams as permitted by Florida Statute and Florida Board of Dentistry Rule.
	20.07	Apply dental sealants as permitted by Florida Statute and Florida Board of Dentistry Rule.

	20.08	Identify the elements of nutrition, basic food groups, and acceptable diets as recommended by the U.S. Department of Agriculture.
	20.09	Identify dietary deficiencies and dietary practices that contribute to the manifestation of symptoms in the oral cavity.
	20.10	Identify community dental resources and services available.
21.0	Perform general dental business office procedures -- The student will be able to:	
	21.01	Maintain appointment control.
	21.02	Maintain an active recall system.
	21.03	Prepare and maintain accurate patient records.
	21.04	Prepare and maintain patient financial records, collect fees.
	21.05	Prepare and maintain office financial records.
	21.06	Prepare and maintain dental office inventory control and purchasing.
	21.07	Demonstrate public relations responsibilities of the secretary/receptionist.
	21.08	Demonstrate skills on office equipment.
	21.09	Maintain the dental business office environment.
	21.10	Receive and dismiss patients and visitors.
	21.11	Demonstrate appropriate patient management/customer service skills.
	21.12	Describe the effect of money management on practice goals.
22.0	Demonstrate professionalism as a dental team member in the clinical setting – The student will be able to:	
	22.01.01	Perform dental assisting duties, dental assisting expanded functions, and dental radiographic procedures in a clinical setting under the direct supervision of a licensed dentist.
	22.01.02	Interact with a professional dental team in the delivery of patient services.
	22.01.03	Utilize employability skills.
Specialty Option 1: Education		
23.0	Demonstrate skills for educational methodologies and strategies--The student will be able to:	
	23.01	Develop and implement policies and operational procedures that meet the American Dental Association accreditation standards for Allied Dental Programs.

	23.02 Identify and describe educational theory and methodology as they relate to Allied Dental Education.
	23.03 Establish liaison with appropriate accrediting organizations, community partners, and educational institutions.
	Specialty Option 2: Product Marketing, Sales, and Educational Programs
24.0	Demonstrate skills necessary for marketing, sales, and educational programs for dental products--The student will be able to:
	24.01 Establish educational programs relating the value and effectiveness of various dental products.
	24.02 Apply economic principles for product marketing, distribution and sales.
	24.03 Demonstrate effective product evaluation and comparison.
	24.04 Identify appropriate consumer populations.
	Specialty Option 3: Dental Practice Management
25.0	Demonstrate knowledge of dental practice set up and management procedures--The student will be able to:
	25.01 Establish policies and procedures for dental practice operations.
	25.02 Identify roles and responsibilities of all employees.
	25.03 Implement policies and procedures for establishing effective management of a dental practice.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Field Internship Activities: Clinical experiences are integrated with the didactic portion of this program. Clinical experience assisting a dentist must be an integral part of the educational program designed to perfect students' competence in performing dental assisting functions, rather than to provide basic instruction. The major portion of the students' time in clinical assignments must be spent assisting with or participating in patient care. Prior to clinical assignments, students demonstrate minimum competence in performing the procedures which they will be expected to perform in their clinical experience.

Special Notes

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Certified Dental Assistant (DANBD001) – 5 credits

Dental assisting programs accredited by the American Dental Association Commission on Dental Accreditation are required to implement enrollment and admissions criteria that include the selection of adult students with a high school diploma, its equivalent, or an advanced degree.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the goals of TECH PREP and is based on the model developed by the Allied Health Articulation Task Force.

This program should meet the most current edition of the American Dental Association Accreditation Standards for Dental Assisting Education Programs. For further information, contact: Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, Illinois 60611.

For Florida information contact the Florida Agency for Health Care Administration (AHCA), Division of Health Quality Assurance, Board of Dentistry, 4052 Bald Cypress Way, Tallahassee, FL 32399, 850/245-4161.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Pursuant to 466.024 F.S., 64B5-16.002 F.A.C. and 64B5-9.011 F.A.C., completers of the dental assisting program may be awarded a certificate verifying formal training which is required for the performance of certain remediable tasks (also known as expanded functions.)

Students should be encouraged to become members and participate in the activities of the professional organization: The American Dental Assistants Association.

Completers of the dental assisting program should be encouraged to take the Dental Assisting National Board (DANB) Certified Dental Assistant (CDA) exam. DANB is recognized by the American Dental Association as the national certification board for dental assistants.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Hygiene**
Career Cluster: **Health Science**

AS	
CIP Number	1351060200
Program Type	College Credit
Standard Length	88 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2021 Dental Hygienists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as dental hygienists SOC Code-29-2021 Dental Hygienist or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to patient assessment, dental hygiene instrumentation and direct patient care services (scaling/root planing/curettage/radiographs/oral hygiene-instruction/expanded functions), community dental health, dental office emergencies, infection control, special needs dental care, office management, employability skills, ethics and jurisprudence.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 88 credit hours.

Regulated Programs

Students are prepared to take the Dental Hygiene National Board and state licensure examinations. Dental Hygiene Programs accredited by the American Dental Association Commission on Dental Accreditation are required to implement clinical experiences outlined in these program standards.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the dental health care delivery system and dental health occupations
02.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas
03.0 Describe the legal and ethical responsibilities of the dental health care worker
04.0 Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts
05.0 Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance
06.0 Recognize and respond to emergency situations
07.0 Use information technology tools
08.0 Explain the importance of employability skills
09.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS
10.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives
11.0 Perform expanded functions for the dental hygienist as permitted by Florida Statutes/Law
12.0 Perform dental office procedures
13.0 Identify, describe, maintain and utilize dental instruments and equipment
14.0 Identify and perform dental and radiographic procedures
15.0 Identify properties and uses, and manipulate dental materials
16.0 Describe the legal and ethical responsibilities of the dental hygienist
17.0 Identify and explain the formation and function of the head, neck, dental structures and tissues including pathological conditions of the human body in relation to the oral cavity
18.0 Identify and explain principles of microbiology, disease transmission, disease prevention, and perform infection control procedures
19.0 Identify and explain usage, administration, indications, contraindications, adverse reactions and precautions of pharmaceutical and anesthetic agents used in the treatment of dental disease
20.0 Describe principles and perform techniques of preventive dentistry
21.0 Perform patient assessment
22.0 Perform direct patient services and competently provide dental hygiene process of care for the child, adolescent, adult and geriatric patient as well as the special needs patient
23.0 Implement and evaluate community health interventions and research activities

Florida Department of Education
Student Performance Standards

Program Title: **Dental Hygiene**
CIP Number: **1351060200**
Program Length: **88 credit hours**
SOC Code(s): **29-2021**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:
Dental Hygiene Students completing the following intended outcomes (1- 23) have met the requirements of the Dental Hygiene Program and qualify to make application for the Dental Hygiene National Board and state licensure examinations.

01.0	Demonstrate knowledge of the dental health care delivery system and dental health occupations – The student will be able to:
01.01	Identify the basic components of the dental health care delivery system including public, private, government and non-profit.
01.02	Describe the various types of dental health care providers and the range of services available.
01.03	Describe the composition and functions of a dental health care team
01.04	Identify the general roles and responsibilities of the individual members of the dental health care team.
01.05	Identify the roles and responsibilities of the consumer within the dental healthcare system.
01.06	Explain the cause and effects of factors that influence the current delivery system of dental healthcare.
01.07	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on the dental healthcare delivery system.
01.08	Discuss the history of dentistry and dental hygiene
02.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas – The student will be able to:
02.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
02.04	Compose written communication using correct spelling, grammar,-formatting and confidentiality and specific formats of letter writing.

	02.05	Recognize components of medical and dental terminology and abbreviations.
	02.06	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relationships.
	02.07	Recognize the importance of patient education regarding dental and health care.
	02.08	Adapt communication skills to meet various levels of understanding and orientation of diversity including but not limited to sexual orientation, gender orientation, disability, age, culture, economics, ethnicity and religion.
	02.09	Identify psychological considerations influencing communication and behaviors.
03.0	Describe the legal and ethical responsibilities of the dental health care worker – The student will be able to:	
	03.01	Identify areas of Florida Statute 466 and Rule 64B5-16 FAC and Rule 64B5-25 FAC applicable to practice by the dental health workers.
	03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03	Demonstrate procedures for accurate documentation and record keeping.
	03.04	Interpret healthcare facility policy and procedures.
	03.05	Explain the patients' "Bill of Rights."
	03.06	Identify and implement standards of the Health Insurance Portability and Accountability Act (HIPAA).
	03.07	Distinguish between express, implied and informed consent.
	03.08	Explain the laws governing harassment, labor and employment.
	03.09	Differentiate between legal and ethical issues in dentistry.
	03.10	Describe a Code of Ethics consistent with the dental hygiene profession.
	03.11	Identify and compare personal, professional and organizational ethics.
	03.12	Recognize the limits of authority and responsibility of dental health care workers including legislated scope of practice.
	03.13	Recognize and report illegal and/or unethical practices of dental health care workers.
	03.14	Recognize signs of abuse and neglect.
	03.15	Demonstrate an understanding of reporting requirements for all types of abuse including domestic violence and neglect for all ages.
	03.16	Identify resources for victims of domestic violence.
	03.17	Explain risk management.

04.0	Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts – The student will be able to:
	04.01 Develop a basic understanding of the structure and function of the body systems.
	04.02 Identify common disorders related to each of the body systems.
	04.03 Explain basic concepts of positive self-image, wellness, and stress.
	04.04 Describe a wellness and stress control plan that can be used in personal and professional life.
05.0	Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance – The student will be able to:
	05.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	05.02 Identify and describe methods in medical error reduction and prevention in the dental healthcare setting.
	05.03 Demonstrate an understanding of personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.04 Recognize Safety Data Sheets (SDS) and Globally Harmonized System (GHS) labels and comply with safety signs, symbols and labels.
	05.05 Describe procedures for the safe transport and transfer of patients.
	05.06 Describe fire safety, disaster and evacuation procedures.
	05.07 Explain emergency procedures to follow in response to workplace accidents.
	05.08 Demonstrate handwashing and the use of personal protective equipment used in dentistry.
06.0	Recognize and respond to emergency situations – The student will be able to:
	06.01 Take and record vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
07.0	Use information technology tools – The student will be able to:
	07.01 Define terms and demonstrate basic computer skills.
	07.02 Interpret information from electronic medical documents.
08.0	Explain the importance of employability skills – The student will be able to:
	08.01 Identify personal traits or attitudes desirable in a member of the healthcare team.

	08.02	Exemplify basic professional standards of dental healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	08.03	Maintain a career portfolio to document knowledge, skills, and experience.
	08.04	Develop a professional resume
	08.05	Conduct a job search and complete a job application form correctly.
	08.06	Demonstrate effective job interview techniques
	08.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	08.08	Examine licensing, certification, and industry credentialing requirements.
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS – The student will be able to:	
	09.01	Recognize emerging diseases and disorders.
	09.02	Demonstrate knowledge of transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	09.03	Identify "at risk" behaviors that promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	09.04	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	09.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	09.06	Demonstrate knowledge of the legal aspects of treating patients with HIV^+ infection and AIDS, including testing.
10.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives – The students will be able to:	
	10.01	Analyze attributes and attitudes of an effective leader.
	10.02	Recognize factors and situations that may lead to conflict.
	10.03	Demonstrate effective problem-solving techniques for managing team conflict.
11.0	Perform expanded functions for the dental hygienist as permitted by Florida Statutes/Law--The student will be able to:	
	11.01	Perform expanded functions as permitted by the Florida Statutes/Law pertaining to the practice of dental hygiene.
12.0	Perform dental office procedures--The student will be able to:	
	12.01	Maintain appointment control with effective time management skills.
	12.02	Assess, create, modify, and maintain an active recare system.

	12.03 Prepare and maintain accurate patient records.
	12.04 Prepare and maintain dental office inventory control and purchasing.
	12.05 Demonstrate skills on office equipment to include computers and dental office management systems.
	12.06 Identify correct code on dental procedures and nomenclature (CDT Codes).
	12.07 Maintain a positive office environment.
	12.08 Receive and dismiss patients and visitors.
	12.09 Demonstrate reporting and recording of adverse events.
13.0	Identify, describe, maintain and utilize dental instruments and equipment--The student will be able to:
	13.01 Identify various types, functions and operations of dental operatory and laboratory equipment.
	13.02 Maintain dental operatory equipment and instruments including proper sharpening techniques.
	13.03 Identify types and functions of dental hygiene instruments.
14.0	Identify and perform dental and radiographic procedures--The student will be able to:
	14.01 Describe history, physics and biological effects of ionizing radiation.
	14.02 Identify parts of the imaging machine including accessories.
	14.03 Demonstrate radiologic health protection techniques.
	14.04 Perform processing procedures that include application and care.
	14.05 Place image receptors and expose dental images that could include chemical emulsion, digital or phosphor plates, and understand the relevance of exposure settings, times and patient record keeping.
	14.06 Identify radiographic anatomical landmarks.
	14.07 Mount radiographic surveys and/or save and store digital files.
15.0	Identify properties and uses, and manipulate dental materials--The student will be able to:
	15.01 Identify properties and uses and manipulation of gypsum.
	15.02 Identify properties and uses and manipulation of restorative materials.
	15.03 Identify properties and uses and manipulation of dental cements.

	15.04 Identify properties and uses and manipulation of impression materials.
	15.05 Identify properties and uses and manipulation of acrylics and/or thermoplastics.
	15.06 Identify dental laboratory procedures that may include the fabrication of casts, custom trays, temporary crowns and/or bridges.
	15.07 Clean removable dental appliances.
16.0	Describe the legal and ethical responsibilities of the dental hygienist--The student will be able to:
	16.01 Define commonly used legal vocabulary relating to dentistry.
	16.02 Describe ethical considerations/obligations in the dental team-patient relationship.
	16.03 Explain risk management and root cause analysis.
	16.04 Identify areas of Florida Statute 466 and Rule chapter 64B5 applicable to dentistry and dental hygiene.
	16.05 Apply self-assessment skills to prepare for life-long learning.
	16.06 Apply ethical principles, legal and regulatory concepts to resolve ethical dilemmas.
17.0	Identify and explain the formation and function of the head, neck, dental structures and tissues including pathological conditions of the human body in relation to the oral cavity--The student will be able to:
	17.01 Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, lymph nodes, nerves and blood vessels.
	17.02 Identify embryonic development of head, oral cavity, and teeth.
	17.03 Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.
	17.04 Describe and differentiate between normal and malocclusion.
	17.05 Identify the elements of the chemical basis of life, cellular metabolism and the structure of the major tissue types of the human body.
	17.06 Describe the metabolism of nutrient foods, vitamins and minerals by the human body and pathological conditions related to nutrient deficiencies.
	17.07 Identify anatomical structures and physiological function of the principle systems of the human body including the skeletal, muscular, integumentary, circulatory, lymphatic, endocrine, digestive, reproductive, respiratory, urinary, and nervous systems.
	17.08 Recognize and describe oral pathological conditions related to the teeth and their supporting structures.
	17.09 Identify teeth and their landmarks, and the morphological characteristics of each individual tooth.
	17.10 Recognize and describe developmental anomalies related to the teeth, face, and oral structures.
18.0	Identify and explain principles of microbiology, disease transmission, disease prevention, and perform infection control procedures--The

	student will be able to:
	18.01 Differentiate between pathogenic and non-pathogenic microorganisms.
	18.02 Describe pathogens and modes of disease transmission.
	18.03 Differentiate between aseptic and non-aseptic environments.
	18.04 Perform aseptic handwashing technique including use of antiseptic gels.
	18.05 Describe, apply and differentiate methods of cleaning, disinfection and sterilization
	18.06 Recognize the need for and proper precautions for the prevention of disease transmission during all dental related procedures.
	18.07 Identify the role of prokaryotic cells, eukaryotic cells, viruses, and bacteria in the infections and mechanisms of diseases.
	18.08 Identify the genetics of microbes including replication of DNA and protein synthesis, mutation and gene transfer.
19.0	Identify and explain usage, administration, indications, contraindications, adverse reactions and precautions of pharmaceutical and anesthetic agents used in the treatment of dental disease--The student will be able to:
	19.01 Identify drug requirements, agencies, and regulations.
	19.02 Record a drug prescription on a patient's chart.
	19.03 Identify drug actions, side effects, indications and contraindications; verify with Physician's Desk Reference or its equivalent.
	19.04 Describe the process of drug metabolism.
	19.05 Identify common drugs used in dentistry.
	19.06 Identify pharmaceuticals and medicaments used in the oral cavity.
	19.07 Recognize specific conditions in the oral cavity caused by pharmaceutical agents.
	19.08 Identify properties of anesthetics.
	19.09 Identify the tissues innervated by each of the nerves associated with dental local and topical anesthesia.
	19.10 Describe properties and mode of action of an effective local and topical anesthetic.
	19.11 List systemic considerations in choosing a local and topical anesthetic.
	19.12 Describe methods of administering local and applying topical anesthetics.
	19.13 List potential local and systemic adverse reactions associated with local anesthetic administration.

19.14	Prepare armamentarium for administering local anesthetics for recognized techniques.
19.15	Describe the monitoring process and identify precautions in the use of nitrous oxide-oxygen inhalation analgesia.
20.0	Describe principles and perform techniques of preventive dentistry--The student will be able to:
20.01	Identify, communicate, and instruct patients on applicable methods of preventive dentistry that utilize: 20.01.01 risk assessment 20.01.02 evidence based learning 20.01.03 individualized preventive care plans 20.01.04 counseling 20.01.05 training regarding health status and rationale for preventive care plan.
20.02	Identify properties and indications for use of anticariogenic treatments utilized in the community, home, and office.
20.03	Identify and demonstrate proper auxiliary aides based on individual patient needs.
20.04	Identify and describe deficiencies that manifest symptoms in the oral cavity and communicate applicable therapies.
20.05	Formulate and present diets to address specific dental needs and provide nutritional counseling.
21.0	Perform patient assessment--The student will be able to:
21.01	Take, record, and correlate medical/dental history with dental hygiene treatment plan and services to be performed.
21.02	Take, record, and correlate vital sign observations with dental hygiene treatment plan and services to be performed.
21.03	Assess vital signs in order to reduce incidence of patient complications and medical emergencies.
21.04	Perform record and correlate extraoral and intraoral examination findings with dental hygiene treatment plan and patient services to be performed.
21.05	Observe and record existing restorations as well as conditions and suspected pathologies of hard and soft tissues using the appropriate armamentarium.
21.06	Conduct comprehensive periodontal examination including pocket depth, attachment level, recession, mobility, furcations, radiographic findings, and tissue health.
21.07	Consult with dentist and physicians to verify dental and medical information and develop the treatment plan to be implemented.
21.08	Interpret and correlate dental radiographs and dental charting with dental hygiene treatment plan.
21.09	Perform soft tissue reassessment and evaluate the effects of initial dental hygiene therapy and make appropriate therapy modifications or referrals.
21.10	Recognize systemic diseases from oral manifestations.
21.11	Record diagnosis made by dentist.

	21.12	Recognize and respond appropriately to contraindications for dental treatment found in medical and dental history.
	21.13	Identify and assess dental office emergencies and follow the appropriate protocol for treatment.
22.0	Perform direct patient services and competently provide dental hygiene process of care for the child, adolescent, adult and geriatric patient as well as the special needs patient --The student will be able to:	
	22.01	Detect calculus for removal and differentiate between deposits and other causes of tooth surface roughness.
	22.02	Perform non-surgical periodontal debridement (scaling and root planing) using appropriate armamentarium and instrumentation technique.
	22.03	Manipulate mechanical instruments for hard and soft deposit removal, i.e. ultrasonic, air-powder polishing system and/or slow-speed hand-piece.
	22.04	Perform oral prophylaxis.
	22.05	Demonstrate knowledge of soft tissue curettage.
	22.06	Apply desensitizing and/or chemotherapeutic agents where applicable.
	22.07	Communicate to patients' appropriate post-operative instructions and correctly select all necessary self-care therapies intended to restore and maintain the individual patient's soft tissue health for long term care.
	22.08	Provide and communicate dietary counseling for health maintenance and specific healing needs.
	22.09	Provide and communicate recommendations for patient use of caries prevention agents.
	22.10	Provide a comprehensive collection of patient data to identify the physical and oral health status as well as risk factors that could affect patient care and healing.
	22.11	Provide analysis of assessment findings and use of critical thinking in order to address the patient's dental hygiene treatment needs.
	22.12	Establish a dental hygiene care plan that reflects the expected outcomes and treatment interventions to facilitate optimal oral health.
	22.13	Present proposed treatment and procedures to the patient and obtain appropriate informed consent signatures prior to rendering patient care services.
	22.14	Provide patient-centered treatment and evidence-based care in a manner minimizing risk and optimizing oral health.
	22.15	Measure the extent to which expected outcomes identified in the dental hygiene care plan are achieved.
	22.16	Complete an accurate recording of all documentation relevant to patient care.
23.0	Implement and evaluate community health interventions and research activities--The student will be able to:	
	23.01	Demonstrate competence in assessment, planning, implementation and evaluation of community health interventions.
	23.02	Formulate and analyze research methodologies for community health interventions.

23.03	Perform a literature search and interpret research findings in scientific literature.
23.04	Apply research findings to dental hygiene care delivery.
23.05	Apply statistical analysis and evidence based research to health trends and community interventions.
23.06	Collaborate and perform a needs assessment with community partners.
23.07	Differentiate scientific value of literature found in both electronic and traditional mediums.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Equipment and supplies should be provided to enhance hands-on experiences for students. In depth clinical information and requirements can be found in the Commission on Dental Accreditation Dental Hygiene Standards.

Special Notes

General education content must include oral and written communications, Psychology and Sociology.

Biomedical science content must include content in anatomy, physiology, chemistry, biochemistry, microbiology, immunology, general pathology and/or pathophysiology, nutrition and pharmacology.

Dental sciences content must include tooth morphology, head, neck and oral anatomy, oral embryology and histology, oral pathology, radiography, periodontology, pain management, and dental materials.

Graduates must be competent in providing the dental hygiene process of care which includes: Assessment, Planning, Implementation, and Evaluation.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Health Services Management**
Career Cluster: **Health Science**

AS	
CIP Number	1351070101
Program Type	College Credit
Standard Length	60 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11-9111 Medical and Health Services Managers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as health services managers. SOC Code 11-9111 (Medical and Health Services Managers) or health service administrators or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of management, introduction to computer literacy, health care organization, medical ethics, legal aspects, and advanced technical skills in a chosen health-related profession, health and safety, and CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 60 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Recognize and practice safety and security procedures.
05.0 Demonstrate an understanding of information technology applications in healthcare.
06.0 Demonstrate employability skills.
07.0 Demonstrate basic knowledge of medical language, anatomy and physiology, and disease processes
08.0 Demonstrate knowledge of materials and supplies needed to care in healthcare and how to obtain them in various healthcare settings
09.0 Demonstrate leadership and administrative skills basic to management in any health care facility.
10.0 Interpret federal, state and local laws as they apply to health care facilities.
11.0 Demonstrate knowledge of operational and organizational structures of health care facilities.
12.0 Demonstrate knowledge of appropriate human resource management in healthcare
13.0 Identify and apply basic knowledge of departmental capital and operational budgets.
14.0 Demonstrate knowledge of volume and growth, reimbursement systems and methodologies

Florida Department of Education
Student Performance Standards

Program Title: **Health Services Management**
CIP Number: **1351070101**
Program Length: **60 credit hours**
SOC Code(s): **11-9111**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Health Care Management Foundations (1-9)	
01.0	Demonstrate knowledge of the health care delivery system and health occupations. – The student will be able to:
01.01	Identify the basic components of the health care delivery system including public, private, government and non-profit.
01.02	Identify types of healthcare settings.
01.03	Identify the perspective of the health care consumer regarding healthcare.
01.04	Describe the composition and functions of a systemic healthcare team including those not based in the health care facility (e.g. medical device rep. and insurance claims adjuster).
01.05	Identify characteristics of effective teams.
01.06	Recognize methods for building positive team relationships.
01.07	Analyze attributes and attitudes of an effective leader.
01.08	Recognize factors and situations that may lead to conflict.
01.09	Demonstrate effective techniques for managing team conflict.
01.10	Explain both the positive and negative impacts of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively. – The student will be able to:
02.01	Develop fundamental speaking and active listening skills.
02.02	Develop essential observational skills.
02.03	Distinguish the differences between effective and ineffective communication practices.

	02.04	Recognize communication styles and barriers in both yourself and others and adjust accordingly for optimum application.
	02.05	Use factual data to produce and deliver credible and understandable reports.
	02.06	Compose written communication for various purposes using correct spelling, grammar, formatting and confidentiality.
	02.07	Demonstrate an understanding of appropriate situational communication by considering diverse cultures and lifestyles, medical conditions and generations.
03.0	Demonstrate legal and ethical responsibilities. – The student will be able to:	
	03.01	Discuss practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.02	Identify the roles and responsibilities of the consumer within the healthcare delivery system.
	03.03	Explain the “Patient’s Bill of Rights”.
	03.04	Identify the intent, application and violations of the Health insurance Portability and Accountability Act (HIPAA).
	03.05	Describe legal documents that allow patients and their guardians to document end-of-life care decisions ahead of time.
	03.06	Describe informed consent including scenarios when it is not possible or granted.
	03.07	Differentiate between legal and ethical issues in healthcare.
	03.08	Describe key components of personal, professional, and organizational ethics.
	03.09	Recognize the limits of authority and responsibility of health care workers including legislated scope of practice.
	03.10	Discuss what constitutes illegal and/or unethical practices of healthcare workers and the protocols for reporting.
04.0	Recognize and practice safety and security procedures. – The student will be able to:	
	04.01	Recognize safe and unsafe working conditions and the necessary protocol to report safety hazards.
	04.02	Explain how medical errors might occur and describe ways to prevent or mitigate such errors.
	04.03	Describe national personal safety standards advocated by leading healthcare agencies.
	04.04	Discuss appropriate regulatory and accrediting agency patient safety guidelines.
	04.05	Demonstrate an understanding of roles and responsibilities during manmade and natural disasters.
	04.06	Understand benefits and correct method to put on and disrobe from personal protective equipment (PPE).
	04.07	Identify risk management activities.

05.0	Demonstrate an understanding of information technology applications in healthcare. – The student will be able to:
05.01	Demonstrate the ability to use a computer to perform business practices such as word processing, spreadsheets, presentations, and database management.
05.02	Recognize current and changing technology applications in healthcare.
05.03	Discuss methods of communication to access and distribute data including patient portal, electronic messaging, Continuity of Care Documents (CCD) and Health Information Exchanges (HIE).
05.04	Interpret technological capabilities and challenges of Electronic Health Records (EHR) and applications in healthcare.
05.05	Demonstrate how health information is used for institutional and patient strategic planning and outcome assessment and governed quality measures.
05.06	Identify protected Patient Health Information (PHI).
05.07	Identify methods for preventing PHI breaches and technology security.
05.08	Explain Meaningful Use as it relates to privacy, security and access of patients' records.
06.0	Demonstrate employability skills. – The student will be able to:
06.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
06.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, and behavior (i.e. telephone & email etiquette, social media, courtesy and self-introductions).
06.03	Identify necessary documents to compete a job application.
06.04	Write an effective resume.
06.05	Conduct a job search including levels of education, credentialing requirements employment opportunities, workplace environments and career growth potential
06.06	Identify skills for completing and conducting an interview.
07.0	Demonstrate basic knowledge of medical language, anatomy and physiology, and disease processes. – The student will be able to:
07.01	Use appropriate medical terminology and abbreviations.
07.02	Demonstrate knowledge of clinical terminology as relates to healthcare management.
07.03	Describe the structure and function of different body systems.
07.04	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body.
07.05	Demonstrate an understanding of basic discharge and transfer procedures.
08.0	Demonstrate knowledge of materials and supplies needed in healthcare and how to obtain them in various healthcare settings. –

	The student will be able to:
	08.01 Prepare purchase orders, being mindful of current financial status of institution.
	08.02 Shop for quality, price, and quantity.
	08.03 Demonstrate a working knowledge of an effective inventory management system.
	08.04 Identify accounts payable practices.
	08.05 Identify steps to investigate needed supplies for adding a healthcare service and determining impacts to profit and loss.
Health Services Management (9-15)	
09.0	Demonstrate leadership and administrative skills basic to management in any health care facility. – The student will be able to:
	09.01 Identify current trends and perspectives related to the management of health care organizations and the means by which the application of sound management principles and behavior can facilitate change.
	09.02 Interpret managerial principles, practices and processes to the delivery of health care.
	09.03 Identify the role, responsibilities and parameters for the various levels of management within the health care organizations.
	09.04 State the control processes and techniques used to ensure that the objectives, strategies and policies of health care delivery are achieved effectively and efficiently.
	09.05 Relate the various aspects of organizational dynamics (decision making, motivation, leadership, and communication) to the needs and problems of health care organizations.
	09.06 Relate personnel administration practices to the total scope of labor relations, including manpower acquisition, maintenance, and utilization.
	09.07 Conduct needs analysis to identify and prioritize workflow requirements.
	09.08 Identify methods to monitor internal and external customer satisfaction and implement improvements.
10.0	Interpret federal, state and local laws as they apply to health care facilities. – The student will be able to:
	10.01 Cite federal, state and local institutional requirements.
	10.02 List required standards and procedures for facility and staff.
	10.03 Identify mandatory requirements regarding environmental health and safety standards.
	10.04 Discuss the impact of legislative changes on health care facilities.
	10.05 Identify the Florida Statutes as applied to health care facilities.
11.0	Demonstrate knowledge of operational and organizational structures of health care facilities. – The student will be able to:

11.01	Describe the functions and standards of departments in health care facilities.
11.02	Distinguish similarities and differences between administrative roles and responsibilities in different types of health care agencies.
11.03	Describe principles and philosophies of health care agencies delivering long-term, acute and other types of health care services and their individual role in the overall healthcare delivery system.
11.04	Identify ancillary services that support health care agencies.
11.05	Compare and contrast different healthcare setting operation structures.
12.0	Demonstrate knowledge of appropriate human resource management in healthcare – The student will be able to:
12.01	Prepare job descriptions.
12.02	Explain the laws governing harassment, labor and employment.
12.03	Illustrate employee satisfaction measurement and improvement techniques.
12.04	Demonstrate the understanding of the legal aspects of human resource management.
12.05	Prepare policy and procedure manuals.
12.06	Explain the components of an effective staff meeting.
12.07	Identify recruitment and retention strategies.
12.08	Demonstrate key components of a performance evaluation.
12.09	Identify methods to assess and develop orientation and training programs for personnel.
12.10	Identify methods to enhance teamwork, collaboration and personnel empowerment.
13.0	Identify and apply basic knowledge of departmental capital and operational budgets. – The student will be able to:
13.01	Describe the budget process and operational budget format.
13.02	Explain a capital budget justification format.
13.03	Delegate capital budget preparation to key managers.
13.04	Analyze and approve appropriate capital budget items.
13.05	Analyze and approve appropriate financial levels in each operational budget.
14.0	Demonstrate knowledge of volume and growth, reimbursement systems and methodologies– The student will be able to:

14.01	Identify common methods, benefits and challenges of payment for healthcare services.
14.02	Demonstrate knowledge of a patient classification system within a health care facility.
14.03	Identify billing and insurance terminology.
14.04	Demonstrate understanding of the process of utilization review.
14.05	Demonstrate knowledge of accounts receivable system that monitors and optimizes reimbursement.
14.06	Demonstrate knowledge of third party reimbursements including Center for Medicare/Medicaid Services (CMS) rulings and precedence to other payers.
14.07	Demonstrate basic knowledge of the procedures and purposes of medical documentation, medical billing and coding.
14.08	Demonstrate knowledge of the revenue cycle.
14.09	Explain government impacts to reimbursement (i.e. value-based payment models, government incentive programs, self-pay models, and HCAPS scores).
14.10	Identify volume and growth strategies for healthcare agencies.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

It is strongly recommended that hands-on practical experience be an integral part of the program.

Special Notes

The following ATD program has been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Health Care Services (0351070202/0351070203) – 32 credit hours

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Certified Medical Assistant (CMA) (AMAMA001) – 3 credits

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The curriculum content must include: courses in management, accounting and bookkeeping, personnel relations and management, governmental standards and regulation of health care administration in diverse health care settings (including nursing administration and patient care).

The theory base is built upon supportive courses available to students in the community college setting. Such courses shall include, but not be limited to, business communication, social science, business, mathematics, and computer application.

Graduates may be eligible to apply to take the National Administrators Board examination and the State Board licensing examination for licensure as a nursing home administrator in the State of Florida if they hold an advanced 4-year degree or meet the requirements of a Baccalaureate degree at an institution of higher learning.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Health Care Services (0351070201) – 32 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Health Information Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351070700
Program Type	College Credit
Standard Length	70 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as Health Information Technicians, Medical Record Technicians SOC Code 29-2071 (Medical Records and Health Information Technicians), or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to health information management, ethical and medico-legal aspects, computer information technology for health records, biomedical sciences, including anatomy and physiology, medical terminology, pharmacology and pathophysiology, health record science, computer applications, word processing, data base management, and spreadsheet, health data content, analysis and structure, statistics and data literacy, coding, clinical classification systems, reimbursement methodologies, quality assessment and performance improvement, health care delivery systems, indexing, organization and supervision, professional practice experience, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 70 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-12 comprise the HIT Core:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Demonstrate knowledge of appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.

In addition, students will complete the objectives in one of the following specialization tracks:

Standards 13-20 must be completed by students specializing in the Medical Coder/Biller CCC or ATD Track:

13.0 Describe the anatomy and physiology of the human body.
14.0 Demonstrate proficiency in the application of medical terminology.
15.0 Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology.
16.0 Demonstrate proficiency in the use of ICD and CPT coding systems, both manual and automated.
17.0 Demonstrate proficiency in ICD coding complexities.
18.0 Explain the significance of health information services to the Medical Coder/Biller.
19.0 Demonstrate ethical and legal principles with regard to the use of medical records.
20.0 Demonstrate understanding of medical billing.

Standards 21-31 must be completed by students specializing in the HealthCare Informatics Specialist CCC Track:

21.0 Demonstrate a basic understanding of the various informatics related disciplines.
22.0 Demonstrate ethical and legal principles with regard to the role of the informatics specialist.
23.0 Utilize valid resources in healthcare informatics to retrieve and analyze relevant information.
24.0 Manage health data.
25.0 Manage healthcare statistics, including biomedical research and quality.
26.0 Utilize appropriate information technology and systems.
27.0 Apply project management principles and practices to health informatics activities.
28.0 Participate in the planning, design, selection, implementation, integration, testing, and support for health information systems.

29.0 Demonstrate an understanding of the fundamental principles related to health record data and work flow management.
30.0 Demonstrate proficiency in electronic health/medical record systems and work flow management.
31.0 Demonstrate proficiency in the application and integration of healthcare informatics concepts and skills through practical lab experiences.

Standards 32-39 must be completed by students specializing in the Medical Record Transcribing/Healthcare Documentation -ATD Track:

32.0 Use appropriate medical and scientific terminology.
33.0 Apply concepts of disease, diagnosis and treatment of the human body.
34.0 Apply rules of English grammar and punctuation.
35.0 Utilize medical references.
36.0 Apply healthcare documentation technology.
37.0 Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist.
38.0 Explain the role of health information services.
39.0 Demonstrate ethical and legal principles with regard to the use of healthcare documentation.

Students must complete at least one of the specialization tracks above and standards 40-43 to obtain the Health Information Technology A.S. degree.

40.0 Coordinate the planning, design, selection, implementation, integration, testing, and support for health information systems.
41.0 Manage Organizational Resources.
42.0 Utilize appropriate health services organization and delivery system regulations.
43.0 Demonstrate proficiency in the abilities, performance and responsibilities required of leadership.

Florida Department of Education
Student Performance Standards

Program Title: **Health Information Technology**
CIP Number: **1351070700**
Program Length: **70 credits**
SOC Code(s): **29-2071**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations –The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.

	02.11 Recognize elements of communication using a sender-receiver model.
	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.

	08.02	Recognize ethical issues related to health information technology.
	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Utilize appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.
	11.03	Demonstrate ability to connect to the internet.

	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.
	11.05	Demonstrate ability to send and receive e-mail.
	11.06	Demonstrate ability to send messages with attached files.
	11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
	11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
	11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:	
	12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
	12.03	Identify documents that may be required when applying for a job.
	12.04	Write an appropriate resume.
	12.05	Conduct a job search.
	12.06	Complete a job application form correctly.
	12.07	Demonstrate competence in job interview techniques.
	12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	12.09	Identify acceptable work habits.
	12.10	Recognize appropriate affective/professional behavior.
	12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
	Standards 13-20 must be completed by students specializing in the Medical Coder/Biller CCC or ATD Track:	
13.0	Describe the anatomy and physiology of the human body–The student will be able to:	
	13.01	Describe the structure and function of the respiratory system.
	13.02	Describe the structure and function of the circulatory system.
	13.03	Describe the structure and function of the musculoskeletal & connective tissue system.

	13.04 Describe the structure and function of nervous and sensory systems.
	13.05 Describe the structure and function of the reproductive system.
	13.06 Describe the structure and function of the urinary system.
	13.07 Describe the structure and function of the digestive system.
	13.08 Describe the structure and function of the endocrine system.
14.0	Demonstrate proficiency in the application of medical terminology–The student will be able to:
	14.01 Recognize and identify word parts of medical terminology in daily use.
	14.02 Build, spell and pronounce correctly, appropriate terms from word parts learned and be able to give the meaning of the word.
	14.03 Identify word parts and be able to build, spell and understand new words with those parts.
	14.04 Spell and use medical abbreviations.
	14.05 Recognize and identify terminology of hospital and other clinical forms.
	14.06 Demonstrate use of basic terminology common to medical/surgical practices.
	14.07 Use medical reference materials.
15.0	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology–The student will be able to:
	15.01 Demonstrate an understanding of the predisposing factors and direct causes of disease as they relate to the human body.
	15.02 Demonstrate an understanding of the general morphology of organisms and their role in the disease process.
	15.03 Demonstrate an understanding of the pathogenesis of diseases of all the body systems.
	15.04 Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
	15.05 Identify and use diagnostic test terminology.
16.0	Demonstrate proficiency in use of ICD and CPT coding systems, both manual and automated–The student will be able to:
	16.01 Outline the development of nomenclatures and classification systems.
	16.02 Identify conventions and guidelines used in coding.
	16.03 Describe the process to annually update coding resources.

	16.04	Demonstrate the ability to code CPT and HCPCS II Codes with a focus on correct coding and sequencing of CPT codes for Anesthesia; Evaluation & Management (E&M); Surgery; Pathology and Laboratory; Radiology , and Medicine.
	16.05	Identify when it is appropriate to use HCPCS Level II codes and how to code them correctly.
	16.06	Use case studies and authentic medical records/abstracts to code intermediate and advanced, complex procedure code assignment using CPT (all sections), HCPCS II Codes, and, the current ICD Procedural Coding System
	16.07	Append all appropriate modifiers to both CPT and HCPCS II codes
	16.08	Explain Physician Quality Reporting Initiative (PQRI) and its relationship to CPT Category II codes.
	16.09	Demonstrate the ability to accurately code and sequence for current ICD Diagnoses and Procedural Coding System Codes by body systems and supplemental chapters/materials.
	16.10	Identify any discrepancies, incomplete information and/or poor documentation practices in relation to coding while following appropriate departmental policies for correcting errors or improving documentation practices.
17.0	Demonstrate proficiency in ICD coding complexities–The student will be able to:	
	17.01	Apply advanced ICD coding concepts to diagnostic complexities of complex case studies with an articulation of coding rules and sequencing.
	17.02	Understand case-mix analysis, severity of illness systems, and coding quality monitors and reporting.
	17.03	Using a variety of simulated patient records (Emergency Department, Ambulatory Surgery, and Inpatient), interpret data and assign diagnostic codes.
	17.04	Describe characteristics of prospective payment systems (DRG, APR-DRG, APC and RUGS groupers) for various types of healthcare settings.
	17.05	Review the format and conventions of ICD Diagnoses and Procedural Coding System coding systems.
	17.06	Identify the areas of similarities and differences to various classification systems (For example, ICD, DSM-IV, ICD-O).
	17.07	Use and maintain application processes to support other clinical classification systems (DSM IV, ICD-O).
	17.08	Explain how the Systematized Nomenclature of Medicine clinical terminology is utilized in the development of an electronic health record system.
18.0	Explain the significance of health information services to the Medical Coder/Biller–The student will be able to:	
	18.01	Describe origin, history and definition of all medical record types.
	18.02	Describe the functions of the medical record department, i.e., data collecting, filing, retrieving, coding, indexing, and workflow in all record types.
	18.03	Explain the classification and functions of health information management personnel and chain of command.
	18.04	State reasons medical records are important in the health care delivery system.
	18.05	Explain different filing systems used in health care institutions.

	18.06	Describe the development of the medical record to include all record types.
	18.07	Explain the importance of the medical record in relation to state and federal agencies, accrediting and licensing agencies.
	18.08	Demonstrate the use of a master patient index (MPI) system.
19.0	Demonstrate ethical and legal principles with regard to the use of medical records–The student will be able to:	
	19.01	Explain the importance of maintaining ethical and legal standards in compiling and using medical records.
	19.02	Discuss the Code of Ethics of the American Health Information Management Association.
	19.03	Explain the scope of practice of the Medical Coder/Biller.
	19.04	Demonstrate ethical coding practices as outlined by AHIMA.
	19.05	Identify HIPAA compliance guidelines and regulations for electronic health information.
20.0	Demonstrate understanding of medical billing–The student will be able to:	
	20.01	Demonstrate an understanding of the revenue cycle management processes.
	20.02	Complete CMS (Centers of Medicare/Medicaid Services) 1500 or comparable claim form.
	20.03	Compare and contrast various reimbursement entities.
	20.04	Identify sources of payment, including patient and third parties.
	20.05	Use medical billing software.
	20.06	Perform electronic claims billing and submission.
	20.07	Interpret explanation of benefits (EOBs) and explanation of Medicare benefits (EOMBs).
	20.08	Analyze claims rejection, correct and resubmit for payment.
	20.09	Explain the relationship of current payment methodologies and systems including but not limited to Medicare Severity Diagnosis Related Groups (MS-DRGs) Ambulatory Payment Classifications (APCs), Resource Based Relative Value Scale (RBRVS), and Ambulatory Surgery Center (ASC) Payment System.
	20.10	Identify the various external regulating agencies and their impact on the coding systems.
	20.11	Discuss chargemaster and superbill maintenance.
	20.12	Understand compliance strategies and reporting as well as regulatory guidelines such as the National Correct Coding Initiative (NCCI), Local Coverage Determination (LCD), National Coverage Determination (NCD) and the Outpatient Code Editor (OCE).
Standards 21-31 must be completed by students specializing in the HealthCare Informatics Specialist CCC Track:		

21.0	Demonstrate a basic understanding of the various informatics related disciplines. – The student will be able to:
21.01	Identify key events in the history and development of the informatics discipline, including the present industry environment and future trends.
21.02	Demonstrate comprehensive knowledge of health data standards related to the development of the computerized infrastructure necessary to support the implementation of electronic health/medical records.
21.03	Explore the role of informatics professionals, specifically in the assessment of training needs and ethical practices to safeguard confidential health information.
21.04	Explain the scope of practice of the healthcare informatics technician.
22.0	Demonstrate ethical and legal principles with regard to the role of the informatics specialist – The student will be able to:
22.01	Discuss the Code of Ethics of the American Health Information Management Association and other informatics related professional organizations.
22.02	Explain the scope of practice of the healthcare informatics specialist.
23.0	Utilize valid resources in healthcare informatics to retrieve and analyze relevant information. – The student will be able to:
23.01	Demonstrate the ability to identify credible informatics resources relevant to the content, applications, and assignments.
23.02	Utilize case studies and best practices in informatics projects and course work.
24.0	Manage health data. –The student will be able to:
24.01	Collect and maintain health data (such as data elements, data sets, and databases).
24.02	Apply policies and procedures to ensure the accuracy of health data.
24.03	Compare clinical vocabulary systems.
24.04	Verify timelines, completeness, accuracy, and appropriateness of data and data sources for patient care, management, billing reports, registries, and/or databases.
24.05	Maintain healthcare information requirements and health data standards.
24.06	Collect, analyze and report quality measures.
24.07	Maintain and interpret user access logs/audit trails to track history of access to and disclosure of identifiable patient data.
25.0	Manage healthcare statistics, including biomedical research and quality. –The student will be able to:
25.01	Abstract and maintain data for clinical indices/databases/registries.

25.02	Collect, organize, and present data for quality management, utilization management, risk management, and other related studies.
25.03	Compute and interpret healthcare statistics.
25.04	Understand Institutional Review Board (IRB) processes and policies.
25.05	Use specialized databases to meet specific organization needs such as medical research and disease registries.
25.06	Abstract and report data for facility wide quality management and performance improvement programs.
25.07	Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare.
26.0	Utilize appropriate information technology and systems. – The student will be able to:
26.01	Use technology, including hardware and software, to ensure data collection, storage, analysis and reporting of information.
26.02	Demonstrate advanced proficiency in using such as spreadsheets and databases in the execution of projects and presentations.
26.03	Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement, and imaging.
26.04	Apply policies and procedures to the use of networks, including internet and intranet applications to facilitate the electronic health record (EHR), personal health record (PHR), public health and other administrative applications.
26.05	Apply knowledge of data base architecture and design (such as data dictionary, data modeling, data warehousing) to meet departmental needs.
26.06	Use appropriate electronic or imaging technology for data/record storage.
26.07	Design, query and generate reports to facilitate information retrieval.
26.08	Apply retention and destruction policies for health information.
26.09	Maintain archival and retrieval systems for patient information stored in multiple formats.
26.10	Coordinate, use, and maintain systems for document imaging and storage.
26.11	Apply confidentiality and security measures to protect electronic health information.
26.12	Protect data integrity and validity using software or hardware technology.
26.13	Apply departmental and organizational data and information system security policies
26.14	Use and summarize data compiled from audit trails and data quality monitoring programs.
27.0	Apply project management principles and practices to health informatics activities. – The student will be able to:
27.01	Demonstrate an understanding of the definition and general principles of healthcare informatics project management.

	27.02	Demonstrate skills associated with planning, executing, and tracking a healthcare informatics project.
	27.03	Demonstrate abilities related to managing work teams, allocating project resources, and resolving problems associated with a healthcare informatics project.
28.0	Participate in the planning, design, selection, implementation, integration, testing, and support for health information systems – The student will be able to:	
	28.01	Demonstrate the ability to research best practices and perform a needs assessment to determine the architecture and system specifications needed for selection of an electronic health/medical record system for specific healthcare environments.
	28.02	Evaluate, select, and implement information technologies to manage health data and systems in various healthcare settings, i.e. hospitals, clinics, physician practices.
	28.03	Identify technological and behavioral barriers and potential solutions associated with electronic health/medical record implementation initiatives.
	28.04	Utilize project management skills and tools.
	28.05	Develop S.M.A.R.T. goals for Health Information Technology projects.
	28.06	Identify appropriate input/output devices and hardware configuration.
	28.07	Assess workflow and process assessment as it pertains to information technology.
	28.08	Describe information systems theory and the system development life cycle.
	28.09	Demonstrate an understanding of strategic planning for implementation of health information systems.
	28.10	Evaluate security standards including physical, virtual, and network risk areas.
	28.11	Assist in the development of end-user training sessions, including planning training sessions and development of training material.
29.0	Demonstrate an understanding of the fundamental principles related to health record data and work flow management. – The student will be able to:	
	29.01	Demonstrate an understanding of the architectural and operational components of an integrated health management information system.
	29.02	Demonstrate knowledge of health/medical record relational database design, management, and data warehousing/mining for decision support.
	29.03	Demonstrate the ability to utilize data flow diagrams and process design and redesign methodologies.
30.0	Demonstrate proficiency in electronic health/medical record systems and work flow management. – The student will be able to:	
	30.01	Recognize best practices.
	30.02	Explain the purpose of a needs assessment.

	30.03	Assist in the identification and selection of information technologies to manage health data and systems in various healthcare settings, i.e. hospitals, clinics, physician practices.
	30.04	Identify technological and behavioral barriers associated with electronic health/medical record implementation initiatives.
	30.05	Explore the influence and scope of electronic health/medical record system practices on a global and international scale.
31.0	Demonstrate proficiency in the application and integration of healthcare informatics concepts and skills through practical lab experiences – The student will be able to:	
	31.01	Explore the role and responsibilities of the health informatics specialist as team leader and/or project manager.
	31.02	Apply knowledge and skills related to organization or electronic health/medical record operations, personnel, equipment and resources.
	31.03	Explore real-world applications of healthcare informatics principles and practices.
	31.04	Demonstrate assimilation of knowledge and skills necessary for entry-level performance as a health informatics specialist.
	31.05	Demonstrate an understanding of the definition and general principles of healthcare informatics project management.
	31.06	Demonstrate skills associated with planning, executing, and tracking a healthcare informatics project.
	31.07	Demonstrate abilities related to managing work teams, allocating project resources, and resolving problems associated with a healthcare informatics project.
Standards 32-39 must be completed by students specializing in the Medical Record Transcribing/Healthcare Documentation -ATD Track		
32.0	Use appropriate medical and scientific terminology–The student will be able to:	
	32.01	Spell, define and pronounce medical words and their components.
	32.02	Define and use medical abbreviations. brief forms, acronyms, eponyms, and foreign words and phrases commonly used in healthcare practice.
	32.03	Identify and use the medical terminology related to the structure and function of the human body.
	32.04	Identify, pronounce, spell, and define pharmacological terminology
	32.05	Students will distinguish between or among medical homophones (soundalikes), commonly confused medical terms, and synonyms.
33.0	Apply concepts of disease, diagnosis and treatment of the human body:	
	33.01	Identify and explain structure and function of the human body in health and in disease.
	33.02	Identify disorders and treatments of the human body.
	33.03	Identify and explain electrodiagnostic, imaging, laboratory, and pathology procedures and their application to diseases and disorders.

	33.04 Demonstrate knowledge of pharmacology to include indications and contraindications, dosage, methods of administration, interactions and side effects.
	33.05 Categorize surgical procedures and other interventional diagnostic and treatment modalities by specialty, indications or related diagnoses, technique, and typical findings.
34.0	Apply rules of English grammar and punctuation–The student will be able to:
	34.01 Recognize and use the principal parts of speech.
	34.02 Recognize and use punctuation marks.
	34.03 Apply rules of numerical expression.
	34.04 Apply rules of capitalization.
	34.05 Define and use abbreviations.
	34.06 Demonstrate ability to spell words in common usage
	34.07 Evaluate and use reliable resources for research and practice.
	34.08 Apply correct medical style as defined by authorities(i.e. AHDI Book of style, AMA Manual of Style)
	34.09 Edit and proofread healthcare documentation.
	34.10 Recognize and use report formats.
35.0	Utilize medical references–The student will be able to:
	35.01 Use medical dictionaries and specialty word books.
	35.02 Identify and use trade, generic and chemical drug names utilizing reference sources.
	35.03 Identify and use diagnostic test terminology.
	35.04 Access, use and evaluate the reliability of resources located on the internet
36.0	Apply healthcare documentation technology–The student will be able to:
	36.01 Demonstrate keyboarding skills with an awareness of productivity and accuracy standards and definitions.
	36.02 Demonstrate use of transcription technology
	36.03 Discuss the use of commonly used dictation delivery and transcription technologies.
	36.04 Students will accurately transcribe and/or edit a required minimum number of reports to include history and physical, consultations, discharge summaries, operative reports and special reports, applying competencies specified in the areas of English Language,

		Medical Knowledge, Technology, Healthcare Documentation, and Professional Practice.
	36.05	Students will demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
	36.06	Students will recognize, evaluate, and call attention to inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
	36.07	Demonstrate the use of word processing programs, including commands for editing, file organization, and retrieval.
	36.08	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
	36.09	Demonstrate a general knowledge of speech recognition technology (SRT), its basic editing functions, and how it integrates into healthcare documentation.
	36.10	Demonstrate a general knowledge of electronic healthcare records (EHR) including the functions related to dictation/transcription integration and editing, and common terminology used in EHR systems.
37.0	Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist –The student will be able to:	
	37.01	Follow common health information policies and procedures for security specific to the role of the medical transcriptionist/ healthcare documentation specialist.
	37.02	Demonstrate workstation ergonomics specific to the medical transcriptionist/ healthcare documentation specialist
38.0	Explain the role of health information services–The student will be able to:	
	38.01	Understand the documentation workflow, will be able to explain the importance of delivering healthcare documentation in a timely manner, and apply this concept.
	38.02	Explain the use of the health record by state and federal regulatory and licensing agencies and accrediting bodies/agencies
	38.03	Students will demonstrate an awareness of the opportunities in medical transcription/ healthcare documentation and related careers and the importance of professional development.
39.0	Demonstrate ethical and legal principles with regard to the use of healthcare documentation–The student will be able to:	
	39.01	Explain the importance of maintaining ethical and legal standards in compiling and using healthcare documentation.
	39.02	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI)
	39.03	Explain medical record authentication and its legal implications.
	39.04	Explain the scope of practice of the medical transcriptionist/ healthcare documentation specialist.
	39.05	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).
	39.06	Discuss the code of ethics of the American Health Information Management Association (AHIMA).
	39.07	Discuss Health Insurance Portability and Accountability Act (HIPAA) regulations as these regulations apply to healthcare documentation.

Students must complete at least one of the specialization tracks above and standards 40-43 to obtain the Health Information Technology A.S. degree.
40.0 Coordinate the planning, design, selection, implementation, integration, testing, and support for health information systems. – The student will be able to:
40.01 Demonstrate the ability to research best practices and perform a needs assessment to determine the architecture and system specifications needed for selection of an electronic health/medical record system for specific healthcare environments.
40.02 Evaluate, select, and implement information technologies to manage health data and systems in various healthcare settings, i.e. hospitals, clinics, physician practices.
40.03 Identify technological and behavioral barriers and potential solutions associated with electronic health/medical record implementation initiatives.
40.04 Utilize project management skills and tools.
40.05 Develop S.M.A.R.T. goals for Health Information Technology projects.
40.06 Coordinate appropriate input/output devices and hardware configuration.
40.07 Design workflow and process assessment as it pertains to information technology.
40.08 Describe information systems theory and the system development life cycle.
40.09 Demonstrate an understanding of strategic planning for implementation of health information systems.
40.10 Provide information for strategic planning.
40.11 Evaluate security standards including physical, virtual, and network risk areas.
40.12 Provide end-user training sessions, including planning training sessions and development of training material.
41.0 Manage Organizational Resources. – The student will be able to:
41.01 Apply and organize roles and functions of teams and committees.
41.02 Adapt communication and interpersonal abilities
41.03 Illustrate team leadership techniques
41.04 Design training and orientation programs.
41.05 Facilitate continuing education programs.
41.06 Comply with local, state and federal labor regulations
41.07 Identify the components of workflow and process monitors.

41.08	Use productivity tools and techniques to monitor, report, and improve processes.
41.09	Prioritize job functions and productivity criteria and communicate the resulting outcomes for health information functions.
41.10	Compose and make recommendations for organizational plans, budgets, and proposals.
41.11	Create and maintain monitors for employee performance, the revenue cycle, and resource allocation
41.12	Monitor coding and revenue cycle processes.
41.13	Recommend cost-savings and efficient means of achieving work processes and goals.
41.14	Contribute to work plans, policies, procedures, and resource requisitions in relation to job functions
42.0	Utilize appropriate health services organization and delivery system regulations. – The student will be able to:
42.01	Apply information system policies and procedures required by national health information initiatives on the healthcare delivery system.
42.02	Apply current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
42.03	Apply policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
42.04	Participate in the implementation of legal and regulatory requirements related to the health information infrastructure.
42.05	Apply policies and procedures for access and disclosure of personal health information.
42.06	Release patient-specific data to authorized users.
42.07	Maintain user access logs/systems to track access to and disclosure of identifiable patient data.
42.08	Conduct privacy and confidentiality training programs.
42.09	Investigate and recommend solutions to privacy issues/problems.
42.10	Apply and promote ethical standards of practice.
43.0	Demonstrate proficiency in the abilities, performance and responsibilities required of leadership. - The student will be able to:
43.01	Summarize health information related leadership roles including information governance.
43.02	Apply the fundamentals of team leadership in a variety of healthcare settings.
43.03	Organize and facilitate meetings for teams and committees.

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The following ATD programs have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Medical Coder/Biller-ATD (0351070705/0351070703) – 26 credits
Medical Record Transcribing-ATD (0351070706/0351070704) – 15 credits

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Certified Medical Transcriptionist (AFHDI001) – 3 credits

The program should meet the program standards and guidelines of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). The program should encompass the AHIMA established knowledge clusters and entry-level competencies for Registered Health Information Technicians (RHIT's). It prepares the student to take the AHIMA national certification examination for Registered Health Information Technicians (RHIT).

This program should be taught in accordance with the accreditation standards of: the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 North Michigan Ave., 21st Floor, Chicago, IL 60601-5800 (312/233-1100) www.cahiim.org

Students should be encouraged to join the (AHIMA) American Health Information Management Association and/or (AAPC) American Academy of Professional Coders and participate in the state/local association.

Outcomes 01-11 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Healthcare Informatics Specialist (0351070711) – 18 credit hours
Medical Information Coder/Biller (0351070707) – 34 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Clinical Research Professional**
Career Cluster: **Health Science**

AS	
CIP Number	1351071902
Program Type	College Credit
Standard Length	60 credit hours
CTSO	HOSA
SOC Codes (all applicable)	11-9121 Natural Science Manager 11-9111 Medical and Health Services Manager 11-9199 Manager All Other 30-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as clinical research coordinators. SOC Code 11-9121 (Natural Science Manager), 11-9111 (Medical and Health Services Manager), 11-9199 (Manager All Other), or 31-9099 (Healthcare Support Workers, All Other) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of management, introduction to computer literacy, health care organization, medical ethics, legal aspects, and advanced technical skills in a chosen health-related profession, health and safety, and CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 60 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate basic knowledge of medical language, anatomy and physiology.
02.0 Identify and apply basic knowledge of different aspects of wellness.
03.0 Demonstrate knowledge of funding and site sponsorship related to clinical research including: public/private grants and contracts and lifecycles of clinical trials
04.0 Demonstrate knowledge of the guidelines and regulations governing clinical trials.
05.0 Demonstrate ability to work as a clinical research professional.
06.0 Demonstrate knowledge of the compliance and monitoring issues in clinical research
07.0 Demonstrate knowledge of the research process including: consent, screening, phases of clinical trials, product development and adverse events and safety.
08.0 Demonstrate knowledge of current events in the field of public health.
09.0 Demonstrate the ability to identify U.S. health care delivery funding sources.
10.0 Demonstrate knowledge of the principles and language of pharmacology, including drugs and drug classes, diagnostic tests, indications, techniques.

Florida Department of Education
Student Performance Standards

Program Title: **Clinical Research Coordinator**
CIP Number: **1351071902**
Program Length: **60 credit hours**
SOC Code(s): **11.9121, 11.9111, 11.9199, 31.9099**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework in accordance with Rule 6A-14.030, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate basic knowledge of medical language, anatomy and physiology. – The student will be able to:
01.01	Define, describe and discuss anatomic descriptive terms of the body.
01.02	Demonstrate an understanding of basic patient discharge and transfer procedures.
01.03	Describe common abbreviations and commonly used medical terms and their proper usage.
01.04	Define and describe anatomic names of bones and organs of the body.
02.0	Identify and apply basic knowledge of different aspects of wellness. – The student will be able to:
02.01	Discuss integrating health living into one's lifestyle.
02.02	Define: physical fitness, mental health, nutrition, tobacco usage, alcohol consumption, illicit drug use, family living and how these factors connect with the concepts of wellness on a personal level.
02.03	Identify the risk factors for cardiovascular disease.
02.04	Describe the effects of tobacco and smoking on the human body.
02.05	Describe the various fitness methods to improve health.
02.06	Discuss the effects of nutrition on health and wellness.
02.07	Explain body composition and achieving a healthy weight.
02.08	Describe stress management strategies.
02.09	Discuss the use and abuse of illicit drugs in society.
02.10	Describe the effects of chronic disease on the human body.

03.0	Demonstrate knowledge of funding and site sponsorship related to clinical research including: public/private grants and contracts and lifecycles of clinical trials.– The student will be able to:
03.01	Describe key concepts and skills used in the site-sponsor relationship.
03.02	Classify clinical research funding sources and the protocols used to secure funding.
03.03	Discuss basic constructs related to grants & contracts management in clinical research.
03.04	Provide examples of the types of lifecycles of clinical trials.
03.05	Define the terms and language used in startup & closing Items on clinical research.
03.06	Determine communication methods to be used in the startup and closing of items in clinical research.
04.0	Demonstrate knowledge of the guidelines and regulations governing clinical trials.– The student will be able to:
04.01	Understand the array of guidelines & regulations governing clinical trials.
04.02	Describe the various HIPPAA Privacy & clinical research privacy issues.
04.03	Identify the major GCP/ICH guidelines related to working with human subjects in research
04.04	Discuss the various sources and uses of essential documents generated from clinical studies.
04.05	Explain the role of compliance in maintaining fidelity to a study protocol.
04.06	Provide examples of a standard response to a request for documentation of meeting award conditions.
04.07	Understand the array of analysis techniques used in interpreting research findings.
05.0	Demonstrate ability to work as a clinical research professional.– The student will be able to:
05.01	Identify clinical and behavioral research settings where Clinical Research Professionals are employed.
05.02	Demonstrate an understanding of the essential duties of a Clinical Research Professional.
05.03	Describe procedures and processes used to protect research participants at placement site.
05.04	Discuss the core research activities of placement site.
05.05	Demonstrate an understanding of how placement site works with: local, county, state and federal agencies to carry out their research activities.
05.06	Evaluate the role of Clinical Research Professionals in research settings.
05.07	Demonstrate the skills necessary to be a productive member of a research team including; working on a multidisciplinary research team and demonstrating an ability to work with confidential research participant information.

06.0	Demonstrate knowledge of the compliance and monitoring issues in clinical research.– The student will be able to:
06.01	Describe the role of compliance in clinical research.
06.02	Identify issues related to compliance in human subject's research.
06.03	Explain activities associated with monitoring within the scope of clinical research.
06.04	Discuss processes used to resolve issues that may arise from monitoring as part of a clinical trial.
06.05	Provide examples of quality assurance audits used in clinical research and discuss their value in relation to performing research with human subjects.
06.06	Define the types of inspections clinical research facilities are subject to.
07.0	Demonstrate knowledge of the research process including: consent, screening, phases of clinical trials, product development and adverse events and safety.– The student will be able to:
07.01	Accurately describe the processes involved in clinical research.
07.02	Define and describe issues associated with participant consent.
07.03	Explain the goals, limitations and basic rules for screening participants.
07.04	Discuss market and social aspects of product development (drugs & devices).
07.05	Discuss impacts of clinical trial stakeholders.
07.06	Accurately describe how epidemiology is used in clinical research.
07.07	Explain the relationship between essential processes related to adverse events & safety.
08.0	Demonstrate knowledge of current events in the field of public health. – The student will be able to:
08.01	Identify outlets (news, media, governmental) used to communicate public health events to the general public.
08.02	Describe the implications of current events on public health.
08.03	Discuss concerns related to how public health information is relayed to the public.
08.04	Recognize how reporting of global events (e.g. epidemics, regime change, and weather events) has the potential to impact other areas.
08.05	Locate emerging public health trends.
08.06	Explain etiology of emerging public health trends discussed throughout semester.
08.07	Discuss legislation designed to protect the public's right to information during major health events (epidemics, terrorism, natural disasters).

09.0	Demonstrate the ability to identify U.S. health care delivery funding sources. – The student will be able to:
	09.01 Demonstrate an understanding of the evolutionary perspective of health services and its relevance with the existing healthcare system, facilities and services.
	09.02 Explain the social, political, and public policy implications of health-related issues, such as availability, cost, delivery, and financing.
	09.03 Describe the various health care organizations and service delivery options.
	09.04 Identify the major health professions and explain the role of each and their licensing/educational requirements.
	09.05 Compare and contrast the health care delivery systems of the U.S. with other major industrialized nations.
	09.06 Understand the array of career choices in the health care sector of the economy.
10.0	Demonstrate knowledge of the principles and language of pharmacology, including drugs and drug classes, diagnostic tests, indications, techniques.-The student will be able to:
	10.01 Describe pharmacological principles.
	10.02 Classify routes of administration.
	10.03 Describe the relationships of drug classes with disease processes and medical specialties.
	10.04 Recognize commonly prescribed medications
	10.05 Use appropriate pharmacological and laboratory references.
	10.06 Describe indications, actions, dosages, and routes of administration.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

HOSA is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Clinical Research Coordinator (0351071901) – 30 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Assisting Advanced**
Career Cluster: **Health Science**

AS	
CIP Number	1351080103
Program Type	College Credit
Standard Length	65 credit hours
CTSO	HOSA
SOC Codes (all applicable)	31-9092 Medical Assistants 31-9099 Healthcare Support Workers, All Other 43-4171 Receptionists and Information Clerks 31-9097 Phlebotomists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

This program is designed to prepare students for employment as medical assistants SOC 31-9092.

The content includes but is not limited to communication, transcultural communication in healthcare, interpersonal skills, legal and ethical responsibilities, health-illness concepts, administrative and clinical duties, emergency procedures including CPR and first aid, emergency preparedness, safety and security procedures, medical terminology, anatomy and physiology, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 65 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate communication skills used by medical assistants.
13.0 Demonstrate knowledge of legal and ethical responsibilities for medical assistants.
14.0 Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states.
15.0 Demonstrate basic clerical/medical office duties.
16.0 Demonstrate accepted professional, communication, and interpersonal skills.
17.0 Discuss phlebotomy in relation to the health care setting.
18.0 Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist.
19.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
20.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
21.0 Practice infection control following standard precautions.
22.0 Practice accepted procedures of transporting, accessioning and processing specimens.
23.0 Practice quality assurance and safety.
24.0 Describe the role of a medical assistant with intravenous therapy in oncology and dialysis.
25.0 Describe the cardiovascular system.
26.0 Identify legal and ethical responsibilities of an EKG aide.
27.0 Perform patient care techniques in the health care facility.
28.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
29.0 Demonstrate basic office examination procedures.
30.0 Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques.
31.0 Demonstrate minor treatments.
32.0 Demonstrate knowledge of basic diagnostic medical assisting procedures.
33.0 Demonstrate basic X-Ray procedures.
34.0 Demonstrate knowledge of pharmaceutical principles and administer medications.
35.0 Perform CLIA-waived diagnostic clinical laboratory procedures.
36.0 Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision.

37.0 Demonstrate knowledge of emergency preparedness and protective practices.
38.0 Perform administrative office duties.
39.0 Perform administrative and general skills.
40.0 Perform clinical and general skills.
41.0 Display professional work habits integral to medical assisting.
42.0 Demonstrate knowledge regarding health information technology.
43.0 Identify the processes of leadership by influencing human behavior to accomplish predetermined goals.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Assisting Advanced**
CIP Number: **1351080103**
Program Length: **65 credit hours**
SOC Code(s): **31-9092, 31-9099, 43-4171, 31-9097**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
12.0	Demonstrate communication skills used by medical assistants. – The student will be able to:
12.01	Organize written and verbal ideas in a concise, precise and logical manner.
12.02	State examples of both verbal and non-verbal communication.
12.03	Use medical terminology as appropriate for a medical assistant.
12.04	Comply with safety signs, symbols, and labels.
12.05	Describe the role of the medical assistant.
13.0	Demonstrate knowledge of legal and ethical responsibilities for medical assistants. – The student will be able to:
13.01	Provide health care as set forth in Florida Statute for the medical assistant.
13.02	Distinguish between the liability of the physicians and staff members in the medical office.
13.03	Explain the principles for preventing medical liability.
13.04	List the principles in the Codes of Ethics for Medical Assistants as stated by the American Association of Medical Assistants.
14.0	Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states. – The student will be able to:

	14.01	Define the terms Anatomy and Physiology
	14.02	Define both medical terms and abbreviations related to all body systems.
	14.03	Define the principle directional terms, planes, quadrants and cavities used in describing the body and the association of body parts to one another.
	14.04	Define the levels of organization of the body inclusive of, but not limited to, cells, organs and body systems.
	14.05	Describe the function of the 11 major organ systems of the body (1) Integumentary, (2) skeletal, (3) muscular, (4) Nervous, (5) endocrine, (6) circulatory (cardiovascular) (7) lymphatic, (8) respiratory, (9) digestive, (10) urinary, and (11) reproductive.
	14.06	Describe symptoms and common disease pathology related to each body system and the relationship of the disease process to other body systems.
	14.07	Discuss diagnostic options to identify common disease pathology and corresponding basic treatment.
	14.08	Compare structure and function of the body across the life span.
	14.09	Identify and describe dietary guidelines necessary for common diseases.
	14.10	Create a patient teaching plan which addresses dietary guidelines and special needs.
15.0	Demonstrate basic clerical/medical office duties. – The student will be able to:	
	15.01	Perform effective communication skills essential to the medical office.
	15.02	Maintain filing systems.
	15.03	Operate office equipment and perform clerical office procedures.
	15.04	Discuss principles of using Electronic Medical Record (EMR).
	15.05	Prepare and maintain medical records both manually and within the Electronic Medical Record (EMR).
	15.06	Screen and process mail.
	15.07	Schedule routine appointments and patient admissions and/or procedures both manually and within the Electronic Medical Record (EMR).
	15.08	Adhere to current government regulations, risk management and compliance within the scope of practice of a Medical Assistant practicing in the State of Florida.
	15.09	Maintain office inventory.
	15.10	Inform patients of office policies both verbally and written.
	15.11	Perform general housekeeping duties.
	15.12	Perform daily office activities both manually and within the Electronic Medical Record (EMR).

	15.13 Receive patients and visitors.
	15.14 Identify and maintain office security policies/procedures.
16.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
	16.01 Demonstrate the appropriate professional behavior of a phlebotomist.
	16.02 Explain to the patient the procedure to be used in specimen collection.
	16.03 Explain in detail the importance of identifying patients correctly when drawing blood.
	16.04 Describe the scope of practice (job skills and duties) for a phlebotomist.
	16.05 List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
	16.06 Explain the importance of continuing education in relation to certification to maintain competency and skills.
17.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
	17.01 List, classify and discuss various departments and services within the health care setting with which the phlebotomist must interact to obtain laboratory specimens from patients.
	17.02 Identify the major departments/sections within the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.
	17.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
18.0	Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist. – The student will be able to:
	18.01 Describe and define major body systems with emphasis on the circulatory system.
	18.02 List and describe the main superficial veins used in performing venipuncture.
	18.03 Locate the most appropriate site(s) for both capillary and venipuncture.
	18.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	18.05 Compare and contrast between serum and plasma as it relates to blood collection.
	18.06 Discuss hemostasis as it relates to blood collection.
19.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	19.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.

	19.02	Explain the special precautions and types of equipment needed to collect blood from a.pediatric patient.
	19.03	Identify and discuss proper use of supplies used in collecting microspecimens.
	19.04	Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	19.05	Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	19.06	Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	19.07	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
20.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:	
	20.01	Follow approved procedure for completing a laboratory requisition form.
	20.02	Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	20.03	Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL)
	20.04	Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	20.05	List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
	20.06	Perform venipuncture by evacuated tube, butterfly, and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
	20.07	Describe the correct order of draw.
	20.08	Describe the use of barcoding systems used for specimen collection.
	20.09	Perform a capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
	20.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
	20.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
	20.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
	20.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	20.14	Demonstrate the proper procedure for collecting blood cultures.
	20.15	Discuss the effects of hemolysis and methods of prevention.
	20.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.

21.0	Practice infection control following standard precautions. – The student will be able to:
21.01	Define the term "nosocomial/ hospital acquired infection."
21.02	Describe and practice procedures for infection prevention including hand washing skills.
21.03	Discuss and perform transmission based precautions.
21.04	Identify potential routes of infection and their complications.
22.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
22.01	Demonstrate good laboratory practice for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
22.02	Demonstrate knowledge of accessioning procedures.
22.03	Describe the significance of time constraints for specimen collection and delivery.
22.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
22.05	Follow protocol for accepting verbal test orders and explain procedure for obtaining signature or other form of authentication of verbal orders.
23.0	Practice quality assurance and safety. – The student will be able to:
23.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.
23.02	Demonstrate knowledge of and practice appropriate patient safety.
23.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
23.04	Follow documentation procedures for work related accidents.
23.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.
24.0	Describe the role of a medical assistant with intravenous therapy in oncology and dialysis. – The student will be able to:
24.01	Outline the principles of Intravenous Therapy.
24.02	Demonstrate knowledge of Intravenous terminology, practices and equipment.
24.03	Describe the dangers of Intravenous Treatment.
24.04	Describe role of Medical Assistant in Assisting with Intravenous Therapy.
25.0	Describe the cardiovascular system. – The student will be able to:

	25.01 Locate the heart and surrounding structures.
	25.02 Diagram and label the parts of the heart and list the functions of each labeled part.
	25.03 Trace the flow of blood through the cardiopulmonary system.
26.0	Identify legal and ethical responsibilities of an EKG aide. – The student will be able to:
	26.01 Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
	26.02 Maintain a safe and efficient work environment.
	26.03 Maintain EKG equipment so it will be safe and accurate.
27.0	Perform patient care techniques in the health care facility. – The student will be able to:
	27.01 Describe the physical preparation of the patient for EKG testing.
	27.02 Identify patient and verify the requisition order.
	27.03 Prepare patient for EKG testing.
	27.04 State precautions required when performing an EKG.
28.0	Demonstrate knowledge of, apply and use medical instrumentation modalities. – The student will be able to:
	28.01 Calibrate and standardize the cardiograph instrument.
	28.02 Identify three types of lead systems.
	28.03 State Einthoven's triangle.
	28.04 Demonstrate proper lead placement including lead placement for patients with special needs
	28.05 Demonstrate knowledge of the application of a Holter Monitor and provide patient education of its use.
	28.06 Identify artifacts and mechanical problems.
	28.07 Perform a 12 lead EKG.
	28.08 Perform a rhythm strip.
	28.09 Recognize normal sinus rhythm.
	28.10 Report any rhythm that is not normal sinus rhythm.

	28.11 Recognize a cardiac emergency as seen on the EKG.
	28.12 Use documentation skills to identify electrocardiographs.
29.0	Demonstrate basic office examination procedures. – The student will be able to:
	29.01 Prepare patients for and assist the physician with physical examinations including, but not limited to, pre and post-natal, male and female reproductive, rectal, and pediatric.
	29.02 Measure and record vital signs, recognizing abnormalities and danger signs.
	29.03 Measure and record a pulse pressure
	29.04 Measure and record an apical pulse.
	29.05 Measure and record a orthostatic blood pressure
	29.06 Record patient data.
	29.07 Instruct patient on breast and testicular self-examinations.
	29.08 Assist with pediatric procedures, including, but not limited to, weighing, measuring, and collecting specimens.
	29.09 Instruct patients regarding health care and wellness practices.
	29.10 Prepare patients for diagnostic procedures.
30.0	Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques. – The student will be able to:
	30.01 Demonstrate competence in sanitation, disinfection and sterilization.
	30.02 Identify common instruments.
	30.03 Sterilize and maintain instruments and supplies.
	30.04 Sanitize instruments.
	30.05 Wrap articles for autoclave.
	30.06 Sterilize articles in autoclave.
	30.07 Chemically disinfect articles.
	30.08 Practice infection control and contamination prevention.
	30.09 Safely handle contaminated equipment and supplies.

	30.10 Create and maintain sterile fields for dressings and minor surgery.
	30.11 Prepare for minor surgical procedures including surgical hand wash.
	30.12 Remove sutures and staples.
	30.13 Correctly dispose of contaminated materials.
31.0	Demonstrate minor treatments. – The student will be able to:
	31.01 Perform minor treatments as directed by the physician including hot and cold therapy, (which includes, but is not limited to the following: hot water bag, heating pad, hot soaks and compresses, ice bag, cold compresses and packs.)
	31.02 Assist the physician with examination, treatment, and/or minor surgery.
	31.03 Organize examination and treatment areas before, during, and after patient care.
	31.04 Perform orthopedic procedures, including but not limited to the following: crutch measurements and instruction in use of canes, crutches, walkers, and wheelchairs.
	31.05 Demonstrate the knowledge of casting procedures and supplies.
	31.06 Apply all types of roller bandages using turns as appropriate.
	31.07 Perform eye irrigations and instillations.
	31.08 Perform ear irrigations and instillations.
32.0	Demonstrate knowledge of basic diagnostic medical assisting procedures. – The student will be able to:
	32.01 Perform visual and auditory screening.
	32.02 Demonstrate knowledge of ultrasound treatment.
	32.03 Perform spirometry.
	32.04 Perform oximetry.
	32.05 Assist in the performance of a Pap and Pelvic.
33.0	Demonstrate basic X-Ray procedures. – The student will be able to:
	33.01 Describe the basic operation of X-Ray equipment and accessories.
	33.02 Describe how to maintain x-ray film files.
	33.03 Describe computed and digital radiography systems.

	33.04	Demonstrate knowledge of the principles of exposure quality.
	33.05	Evaluate X-Ray film quality.
	33.06	Describe X-Ray principles and safety practices.
	33.07	Instruct patient in preparation for basic X-Ray examinations.
	33.08	Position patients for basic x-rays.
	33.09	Use precautions and provide appropriate protection for patients and staff in the presence of ionizing radiation.
	33.10	Maintain a safe working environment in radiological work areas.
34.0	Demonstrate knowledge of pharmaceutical principles and administer medications. – The student will be able to:	
	34.01	Identify commonly administered drugs, their uses and effects.
	34.02	Use correct pharmaceutical abbreviations and terminology.
	34.03	Identify various methods and routes of drug administration.
	34.04	Instruct patients regarding self-administration of medications.
	34.05	Calculate dosage and administer pharmaceuticals to correct anatomical sites, to correct patient, by correct route of administration, at the correct time and chart correctly.
	34.06	Demonstrate knowledge of the legal and ethical standards related to the administration and the dispensing of drugs in the office setting under the doctor's supervision.
	34.07	Demonstrate knowledge of emergency medications for various body systems.
	34.08	Identify the dangers and complications associated with drug administration
	34.09	Report medication errors.
	34.10	Demonstrate appropriate techniques to:
		34.10.01 Prepare and administer non-parenteral medications (solid & liquids).
		34.10.02 Prepare and administer parenteral medications.
		34.10.03 Reconstitute powdered drugs.
		34.10.04 Prepare injections from ampules and vials.
		34.10.05 Apply the Seven Rights of Drug Administration

35.0	Perform CLIA-waived diagnostic clinical laboratory procedures. --The students will be able to:
35.01	Recognize signs and symptoms that may indicate to the physician a need for laboratory testing.
35.02	Describe the criteria used by Food and Drug Administration (FDA) to classify a test as “CLIA waived” and the regulatory constraints on test performance.
35.03	Explain the methods of quality control for CLIA-waived testing, identify acceptable and unacceptable control results, and describe specific corrective action required when results are unacceptable.
35.04	Demonstrate proper technique for the collection of urine, capillary whole blood (finger/heel stick), culture material (throat/nasal swab) and other specimen types required for CLIA-waived tests.
35.05	Instruct patients in the proper collection of urine (clean catch, mid-stream), sputum and stool specimens.
35.06	Perform CLIA-waived occult blood tests.
35.07	Perform CLIA-waived urinalysis testing including color and turbidity assessment, specific gravity and reagent test strips.
35.08	Perform CLIA-waived hematology tests (e.g. - hemoglobin, hematocrit).
35.09	Perform CLIA-waived chemistry tests (e.g. - glucose, cholesterol)
35.10	Perform CLIA-waived pregnancy tests.
35.11	Perform CLIA-waived infectious disease testing (e.g. – strep screen, mono test, influenza A/B)
35.12	Explain Meaningful Use and how it affects the role of the medical assistant regarding the input of laboratory test orders in the EMR.
36.0	Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision– The student will be able to:
36.01	Explain the CLIA-exemption for physician office laboratories
36.02	Define the term “Provider Performed Microscopy” (PPM) and the regulatory constraints on test performance.
36.03	Demonstrate the operation of a compound microscope using direct and oil immersion lens.
36.04	Prepare a urine sediment for microscopic exam.
36.05	Differentiate between gram positive and gram negative organisms.
36.06	Explain the purpose of Wright’s stained blood smears.
37.0	Demonstrate knowledge of emergency preparedness and protective practices. --The student will be able to:
37.01	Maintain and operate emergency equipment and supplies.
37.02	Evaluate the work environment to identify safe vs. unsafe working conditions.

	37.03	Participate in a mock environmental exposure event and document steps taken.
	37.04	Explain an evacuation plan for a physician's office.
	37.05	Maintain a current list of community resources for emergency preparedness.
38.0	Perform administrative office duties. – The student will be able to:	
	38.01	Execute data management using Electronic Medical Record (EMR) including, but not limited to, patient registration, appointment scheduling, charting, billing and insurance processing, procedure and diagnostic coding, ordering and monitoring patient testing, medication and prescription orders, keyboarding and correspondence, and performing an office inventory.
	38.02	Explain Meaningful Use and how it applies to the medical assistant regarding the documentation of physician orders in the Electronic Medical Record (EMR).
	38.03	Execute non EMR data management including, but not limited to, selecting appropriate procedure and diagnostic codes, process insurance data and claims, develop and maintain billing and collection systems, and keyboarding documents.
	38.04	Perform various financial procedures, including, but not limited to, billing and collection procedures, payroll procedures, and checkbook procedures.
	38.05	Maintain personnel records.
39.0	Perform administrative and general skills – the student will be able to:	
	39.01	Demonstrate proper and professional telephone technique.
	39.02	Recognize and respond to verbal communication.
	39.03	Recognize and respond to non-verbal communication.
	39.04	Maintain confidentiality and adhere to HIPAA regulations.
	39.05	Document both manually and electronically appropriately.
	39.06	Schedule appointments manually and electronically accurately.
	39.07	Schedules inpatient and/or outpatient procedures accurately.
	39.08	Organize patients' medical records.
	39.09	File medical records accurately.
	39.10	Prepare bank deposits accurately.
	39.11	Post entries on manual/electronic day sheet.
	39.12	Perform billing and /or ICD-9/10 and/or CPT coding.

	39.13 Greet patients courteously and professionally.
	39.14 Obtain or verify patient precertification or preauthorization.
	39.15 Demonstrate safety and quality assurance in the workplace.
40.0	Perform clinical and general skills – the student will be able to:
	40.01 Demonstrate aseptic hand washing technique.
	40.02 Dispose of bio-hazardous waste in appropriate containers.
	40.03 Adhere to sterilization techniques according to standards.
	40.04 Practice standard precautions.
	40.05 Demonstrate venipuncture and/or capillary punctures.
	40.06 Instruct patients in the collection of specimens.
	40.07 Demonstrate electrocardiography.
	40.08 Demonstrate respiratory testing.
	40.09 Demonstrate CLIA waived testing.
	40.10 Stage patients and obtain vital signs.
	40.11 Obtain and record patient histories.
	40.12 Prepare and maintain examination and treatment area(s).
	40.13 Prepare patient for examinations and/or minor office procedures.
	40.14 Assist with examinations and/or minor office procedures.
	40.15 Prepare medications and/or perform non-intravenous injections.
	40.16 Provide and document patient education.
	40.17 Accurately record and report laboratory tests.
41.0	Display professional work habits integral to medical assisting. – the student will be able to:
	41.01 Communicate appropriately in healthcare settings by listening, writing, speaking and presenting with professional demeanor.

41.02	Collaborate, communicate and interact professionally with other healthcare professionals utilizing technology.
41.03	Contribute to team efforts by fulfilling responsibilities and valuing diversity.
41.04	Explore networking opportunities through professional associations.
41.05	Exercise proper judgment and critical thinking skills in decision making.
41.06	Adapt to changing organizational environments with flexibility.
41.07	Build a portfolio reflecting experiences and skills gained during the externship.
41.08	Report as expected, on time, appropriately dressed and groomed and ready to work.
41.09	Model acceptable work habits as defined by company policy.
41.10	Complete and follow through on tasks using time management skills and take initiative as warranted.
41.11	Respond appropriately and quickly to patient's needs and concerns.
41.12	Practice etiquette and social sensitivity in face to face interaction, on the telephone and the Internet.
41.13	Actively adhere to policies and procedures that protect the patient's confidentiality and privacy.
41.14	Display an understanding of resources related to patients' healthcare needs.
In addition, Standards 42-43 must be completed to receive the Medical Assisting Advanced A.S. Degree.	
42.0	Demonstrate knowledge regarding health information technology. – The student will be able to:
42.01	Explain the heal care delivery fundamentals and settings in the United States.
42.02	Summarize the history of health information management (HIM) and organizations.
42.03	Interpret the legal aspects of health information management (HIM).
42.04	Explain the fundamentals of Information Systems.
42.05	Summarize the types of patient records including the documentation issues associated with each.
42.06	Explain patient record numbering, filing systems, storage, and circulation methods.
42.07	Summarize the evolution of the electronic health record (EHR) and its functional benefits.
42.08	Explain additional health information systems used in the hospital setting.

	42.09	Summarize the requirements of healthcare coding and reimbursement.
	42.10	Explain the different concepts of healthcare transactions and billing.
	42.11	Explain the use of indexes, registries, and health data collection.
	42.12	Summarize the different management and decision support systems used in healthcare.
	42.13	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	42.14	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	42.15	Apply policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	42.16	Identify HIPAA compliance guidelines and regulations for electronic health information.
43.0	Identify the processes of leadership by influencing human behavior to accomplish predetermined goals. The student will be able to:	
	43.01	Formulate a philosophy for leadership.
	43.02	Explain methods that leaders can use in initiating or adjusting to change.
	43.03	Evaluate the role of a leader in conflict management.
	43.04	Develop a plan for setting effective goals.
	43.05	Integrate different genres in development of a leadership philosophy.
	43.06	Model an effective team.
	43.07	Explore the complexities inherent in an ethical and effective leader.
	43.08	Communicate effectively with all members of the health care team when delegating responsibility and monitoring progress.
	43.09	Coordinate the decision making process with the client, significant support person(s), and other members of the health care team.
	43.10	Describe how a leader utilizes research for evidence-based practice effecting positive client outcomes.
	43.11	Employ effective conflict resolution strategies that promote a healthy work environment.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Although it is not required, it is strongly recommended that the programs meet the Standards and Guidelines of an Accredited Educational Program for the Medical Assistant adopted by the American Association of Medical Assistants and the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or the American Medical Technologist and the Accrediting Bureau of Health Education Schools (ABHES).

For further information contact:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
Phone: 727-210-2350
Fax: 727-210-2354

Accrediting Bureau of Health Education Schools (ABHES)
777 Leesburg Pike, Suite 312
N. Falls, VA 22043
(703) 917-9503

This Program Will Also Be In Accordance With Florida Statute Medical Assistants, 458.3485 F.S.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Program completers of a CAAHEP or ABHES accredited program are eligible to take the American Association of Medical Assistants' Certification Examination (CMA) or the American Medical Technologists' Certification Examination (RMA). For further information contact:

American Association of Medical Assistants (AAMA)
20 North Wacker Drive, Suite 1575
Chicago, Illinois 60606 (312/899-1500)
Or
American Medical Technologist (AMT)
10700 West Higgins Road, Suite 150
Rosemont, Illinois 60018 (800 275-1268)

The Medical Assistant graduate may be prepared to take the Basic X-Ray Machine Operator State exam.
Contact: Bureau of Radiation Control
4052 Bald Cypress Way, Bin #C85 Tallahassee, FL 32399-3252
Phone: (850) 245-4910

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Medical Assisting Specialist (0351080104) – 44 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Occupational Therapy Assistant**
Career Cluster: **Health Science**

AS	
CIP Number	1351080303
Program Type	College Credit
Standard Length	74 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-2011 Occupational Therapy Assistants

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as occupational therapy assistants SOC Code 31-2011 (Occupational Therapist Assistants), or to provide supplemental training for persons previously or currently employed in this occupation. The program has been developed to prepare graduates as entry-level generalists and to offer a broad exposure to delivery model systems through academic and fieldwork education including preparation to assist an occupational therapist in implementing the plan of therapy for a patient prescribed by a physician.

The content includes but is not limited to communication and interpersonal skills, health-illness-health concepts, specific life tasks and skills, the study and application of occupational therapy principles, cultural competencies, professional behaviors, and employability skills, health and safety including CPR, anatomy and physiology, kinesiology, psychology, sociology, and gerontology.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 74 credit hours.

Regulated Programs

The program should meet the guidelines of the Accreditation Council for Occupational Therapy Education (ACOTE), 4720 Montgomery Lane Suite 200, Bethesda, MD 20814-3449, (301) 352-2682, of the American Occupational Therapy Association so that students who complete the program will be eligible to take the national certification examination administered by the National Board for Certification in Occupational Therapy (NBCOT). . Florida requires licensing of graduates by the Florida Department of Health through the Florida Board of Occupational Therapy Practice for persons completing programs approved by the American Occupational Therapy Association. This program must be in accordance with the Florida Department of Health's Occupational Therapy Board, Chapter 468, Part III, F.S. and Rule Chapter 64B11, F.A.C.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate ability to communicate and use interpersonal skills effectively for the occupation.
13.0 Demonstrate an understanding of and apply health-illness-health concepts.
14.0 Analyze and apply learned skills in occupations and activities.
15.0 Apply occupational therapy assistant role in the OT service delivery process.
16.0 Demonstrate knowledge of ethics and safety related to occupational therapy assistants.
17.0 Demonstrate knowledge of client mobility.
18.0 Demonstrate an understanding of stress/ stressors and stress reactions as well as mediating factors and its influence on health and human functioning.
19.0 Explain the role of the OTA in the management of occupational therapy services.
20.0 Provide client, family & caregiver education and training.

Florida Department of Education
Student Performance Standards

Program Title: **Occupational Therapy Assistant**
CIP Number: **1351080303**
Program Length: **74 credit hours**
SOC Code(s): **31-2011**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Occupational Therapy Assistant: The completion of intended outcomes 12-20 lead to the eligibility of certification as an Occupational Therapy Assistant.	
12.0	Demonstrate ability to communicate and use interpersonal skills effectively for the occupation. –The student will be able to:
12.01	Demonstrate understanding of "therapeutic use of self" in relationship to working with the client and other allied health professionals.
12.02	Develop and conduct didactic and group discussions.
12.03	Record/report observations.
12.04	Demonstrate the ability to participate in group meetings to deliver and receive information and respond to questions from a variety of sources.
12.05	Accurately document the provision of OT services in accordance with third party payer requirements.
12.06	Articulate the importance of statistics, tests and measurements for the purpose of delivering evidence-based practice.
12.07	Effectively interact through written, oral and nonverbal communication with the client, family, significant others and other health providers in a professionally acceptable manner.
13.0	Demonstrate an understanding of and apply health-illness-health concepts. –The student will be able to:
13.01	Explain occupation as a health determinant.

	13.02	Describe the basic function of the human body with particular emphasis on the neurological, sensory, musculoskeletal and cardiopulmonary systems.
	13.03	Describe the basic development of personality and learning.
	13.04	Describe human occupation across the lifespan as related to the developmental process from birth to death.
	13.05	Identify and describe disabling conditions commonly referred to occupational therapy.
	13.06	Explain the role of occupational therapy as a profession.
	13.07	Explain the role of the occupational therapist and occupational therapy assistant in the assessment and intervention process identifying the collaborative roles and rationale for supervision.
	13.08	Explain the relationship of occupational therapy to other health care workers.
	13.09	Analyze how theory, political climate, history, culture, socioeconomics and demographics influence practice and engagement in activities across the lifespan.
14.0	Analyze and apply learned skills in occupations and activities. –The student will be able to:	
	14.01	Demonstrate skill in analyzing, developing and implementing intervention strategies utilizing occupations and activities.
	14.02	Demonstrate skill in instructing and adapting occupations and activities.
	14.03	Demonstrate the ability to analyze occupations and activities to implement the intervention plan.
	14.04	Grade activities and occupations to promote independent performance.
	14.05	Demonstrate proper care and maintenance of equipment and supplies used in occupational therapy.
	14.06	Demonstrate an understanding of the use of technology and adaptive equipment to support performance, participation, health and well-being.
	14.07	Demonstrate understanding and apply principles of environmental adaptations addressing ergonomics in school, home and work environments.
15.0	Apply occupational therapy assistant role in the OT service delivery process. –The student will be able to:	
	15.01	Contribute to initial screening to determine need for OT services, including data collection for clients' occupational profiles.
	15.02	Contribute to evaluation of occupations, client factors, performance skills, performance patterns, contexts/environments and activity demands, and implement assessments delegated by OT.
	15.03	Contribute to development of occupation-based intervention plans and strategies based on client needs and priorities and occupational therapy goals, in collaboration with OT and client.
	15.04	Implement occupational therapy interventions selected to promote, establish, restore, maintain, modify, or prevent deterioration in occupational performance.
	15.05	Contribute to implementation of occupational therapy intervention for development, remediation and restoration of client factors and performance skills (physical, cognitive, perceptual, neuromuscular, behavioral skills and sensory functions).

	15.06	Implement occupational therapy intervention through the use of therapeutic occupations and activities, preparatory methods and tasks, education and training, advocacy, and group interventions.
	15.07	Contribute to the ongoing review and modification of occupational therapy interventions, and compare progress toward established outcomes.
	15.08	Implement outcome measurements and provide needed client discharge resources.
	15.09	Complete documentation along each step of the service delivery process which communicates the need and rationale for occupational therapy services and meets standards for accountability and reimbursement.
	15.10	Implement patient safety goals according to appropriate accrediting and regulatory agency guidelines.
16.0	Demonstrate knowledge of ethics and safety related to occupational therapy assistants. –The student will be able to:	
	16.01	Describe the relationship of the occupational therapy assistant to:
		16.01.01 the physician
		16.01.02 the occupational therapist
		16.01.03 the employer
		16.01.04 other allied health personnel
	16.02	Explain the term "risk management".
	16.03	Describe to client current treatment objectives and techniques prior to initiation of treatment or service.
	16.04	Describe the principles of ethics as outlined in the AOTA Code of Ethics.
	16.05	Adhere to safety regulations throughout the occupational therapy process as appropriate to the setting and scope of practice.
	16.06	Explain the process of applying and maintaining a Florida license and national certification.
	16.07	Identify requirements to obtain and maintain the Florida license including disqualifying felonies.
	16.08	Explain the continuing education requirements necessary to maintain licensure and national certification.
17.0	Demonstrate knowledge of client mobility. –The student will be able to:	
	17.01	Transfer client safely and correctly using proper body mechanics from any surface to another such as (i.e. bedside commode, wheelchair, toilet, chair or car).
	17.02	Identify wheelchair parts and demonstrate proper wheelchair management in various environments.
	17.03	Provide information to client as needed.
	17.04	Demonstrate the understanding of the use of other assistive devices utilized for mobility of clients, i.e. walker, cane, crutches, gait belt, mechanical lifts.

18.0	Demonstrate an understanding of stress/ stressors and stress reactions as well as mediating factors and its influence on health and human functioning. –The student will be able to:
18.01	Evaluate psychological stressors and their positive and negative effect on physical and mental health.
18.02	Understand the relationship between stress and psychological disorders.
18.03	Understand stress mediators including perception of stressors, predictability and control of stress, physical and psychological effects and coping resources and methods.
18.04	Promote health of the client by utilizing health belief models, self-efficacy and coping strategies.
19.0	Explain the role of the OTA in the management of occupational therapy services. –The student will be able to:
19.01	Perform program administration and support responsibilities.
19.02	Function in the role of supervisee and assist with supervision of aides and volunteers and fieldwork students
19.03	Describe the impact of federal and state legislation and practice acts on the practice of occupational therapy.
19.04	Demonstrate knowledge of various reimbursement systems and documentation requirements.
19.05	Describe the ongoing professional responsibility for providing fieldwork education and the criteria for becoming a fieldwork educator.
19.06	Demonstrate the ability to participate in the development, marketing and management of service delivery options.
19.07	Cooperate, collaborate and communicate to integrate care and ensure care is continuous and reliable as part of an interdisciplinary team.
19.08	Employ evidenced based practice: integrate research, clinical expertise and patient values for optimal care.
19.09	Participate in learning and research activities.
20.0	Provide client, family & caregiver education and training. –The student will be able to:
20.01	Identify resources necessary for clients, family and caregivers for the discharge planning process.
20.02	Educate the client, family and caregivers on the community resources available and their importance.
20.03	Educate the client, family and caregiver on the referral process.
20.04	Provide client, family and caregivers with comprehensive discharge resources.
20.05	Educate client, family and caregivers on home program.
20.06	Provide training in Activities of Daily Living (ADL) in and out of the home utilizing adapted methods and teaching strategies.
20.07	Provide training in Instrumental Activities of Daily Living (I-ADL) in and out of the home utilizing adapted methods and teaching strategies.

20.08	Provide training for safe bed positioning and functional transfers in the living environment according to the diagnosis of the client and their limitations.
20.09	Utilize the concept of health literacy while educating clients in order to facilitate skills in areas of occupation as well as prevention, health maintenance, health promotion and safety.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Cooperative training - OJT is appropriate for this program. Whenever cooperative training is offered, the following are required for each student: a training plan, signed by the student, teacher, and the employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation which reflects equipment, skills and tasks which are relevant to the occupation which the student has chosen as a career goal. The student must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Pharmacy Management**
Career Cluster: **Health Science**

AS	
CIP Number	1351080502
Program Type	College Credit
Standard Length	70 credit hours
CTSO	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	41-1011 First-Line Supervisors of Retail Sales Workers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as a Senior/Lead Pharmacy Technician, Pharmacy Technician Coordinator, Pharmacy Manager/Supervisor trainee, drugstore/pharmacy managers, purchasing managers or SOC 41-1011 (First line supervisors/Manager of Retail sales worker), or to provide supplemental training for persons previously or currently employed in these occupations.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

The content includes but is not limited to metric system, medical terminology, medicinal drugs, pharmaceutical compounding, USP 795 standards, sterile techniques, USP 797 standards, maintenance of inventory, IV preparation, receiving and handling of hazardous materials, preparing purchase orders, receiving and checking supplies purchased, printing labels, typing prescription labels, delivering medications, pricing prescription drug orders and supplies, prepackaging unit dose packages, patient record systems, control records, data processing automation in pharmacy, computer application, employability skills, leadership and human relations skills, health and safety, including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 70 credit hours.

Regulated Programs

This program must be approved by the Board of Pharmacy. Program completers who wish to work as Pharmacy Technicians in the State of Florida must register with the Board of Pharmacy (465.014 F.S.).

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice human relations.
13.0 Identify pharmaceutical abbreviations and terminology as related to Community Pharmacy Practice.
14.0 Identify medical and legal considerations.
15.0 Perform clerical duties as related to Pharmacy Practice.
16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology.
17.0 Demonstrate knowledge of inventory control.
18.0 Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice.
19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology.
20.0 Prepare and deliver medications.
21.0 Prepackage unit dose medications.
22.0 Prepare sterile products.
23.0 Perform Consumer economic activities.
24.0 Perform decision making activities.
25.0 Demonstrate leadership skills.
26.0 Identify, classify, and demonstrate management activities.

Florida Department of Education
Student Performance Standards

Program Title: **Pharmacy Management**
CIP Number: **1351080502**
Program Length: **70 credit hours**
SOC Code(s): **41-1011**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Pharmacy Technician (12-22)	
12.0	Practice human relation skills.-The student will be able to:
12.01	Explore the meaning and duties of a pharmacy technician.
12.02	Explore the organizational flow of responsibilities within a pharmacy setting.
12.03	Understand the importance of developing and maintaining a professional rapport with co-workers.
12.04	Identify pharmacy organizations and their role in the profession.
12.05	Demonstrate an understanding of Continuing Education (CE) requirements for pharmacy technicians and how to obtain them.
12.06	Identify the current trends and perspectives in the pharmacy practice.
12.07	Identify the means by which the application of team building can facilitate change within the pharmacy working environment.
13.0	Identify pharmaceutical abbreviations and terminology as related to pharmacy practice--The student will be able to:
13.01	Utilize pharmaceutical medical terminology.
13.02	Analyze the major symbols and abbreviations used on prescriptions and state the meaning.

14.0	Identify medical and legal considerations--The student will be able to:
14.01	Articulate the significance and scope of current national and Florida law and administrative rules as they relate to the practice of the pharmacy technician.
14.02	Convey an understanding of medical legal concepts as they relate to the practice of the pharmacy technician.
14.03	Explain the need for accurate pharmacy documentation and recordkeeping.
14.04	Justify the importance of HIPAA in pharmacy practice.
14.05	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy.
14.06	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
14.07	Compare and contrast between controlled substances and their applicable regulations.
14.08	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials.
14.09	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
14.10	Understand and explain the legal requirements for final check by the pharmacist
14.11	Classify activities performed by pharmacy professionals as those that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists. For each activity, explain the rationale for the classification.
15.0	Perform clerical duties as related to Pharmacy Practice.--The student will be able to:
15.01	Design and evaluate pharmacy dispensing processes step-by-step in retail practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors.
15.02	Demonstrate computer applications in processing pharmacy prescription data.
15.03	Identify applications of E-Prescribing and facsimile.
15.04	Utilize and apply interactive communication skills while gathering of accurate information from patients and from other healthcare professionals
15.05	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements
15.06	Create, complete and maintain patient profiles.
15.07	Demonstrate telephone communication skills and routine inquiries.
15.08	Convey an understanding of appropriate practice standards pertaining to patient counseling.
15.09	Demonstrate the knowledge of systems used in maintaining pharmacy records.
15.10	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prescription processing.

16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology--The student will be able to:
	16.01 Define the major classifications of pharmaceuticals.
	16.02 Categorize at least one official compendia of standards for quality and purity of drugs and authoritative information on dosage, administration and therapeutic equivalents.
	16.03 Analyze pharmacy reference manuals and web sites.
	16.04 Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory control--The student will be able to:
	17.01 Convey an understanding of industry standards in purchasing pharmaceutical supplies.
	17.02 Maintain controlled substance inventory.
	17.03 Display knowledge of prescription pricing systems used in pharmacy.
	17.04 Maintain stock inventory, communicate shortages and seek alternatives.
	17.05 Prepare electronic purchase orders.
	17.06 Accurately perform the process of purchasing, receiving, storing, distributing and disposing of pharmaceutical supplies.
	17.07 Convey an understanding of industry standards in management of Investigational Drugs.
18.0	Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice--The student will be able to:
	18.01 Convey an understanding of United States Pharmacopeia (USP) 795 standards.
	18.02 Convert measurements within the apothecary, avoirdupois, household and metric systems.
	18.03 Perform common pharmaceutical calculations.
	18.04 Use common pharmaceutical weighing equipment.
	18.05 Use common pharmaceutical volume measurement equipment.
	18.06 Explain the technique of preparing common pharmaceutical compounds.
	18.07 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of non-sterile products.
19.0	Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology--The student will be able to:
	19.01 Predict physical and chemical incompatibilities utilizing chemistry properties.

	19.02	Describe electrolyte balances.
	19.03	Relate the general sources, classes, indications, actions, routes and side effects of drugs.
	19.04	Demonstrate an understanding of common adult doses of medications and respective contraindications.
20.0	Prepare and deliver medications--The student will be able to:	
	20.01	Read and prepare medication orders correctly.
	20.02	Design and evaluate pharmacy dispensing processes step-by-step in institutional practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors
	20.03	Check all new orders with medications listed on profiles while noting any discrepancies.
	20.04	Utilize special precautions in the preparation of medications for pediatric patients.
	20.05	Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.
	20.06	Demonstrate the proper technique of preparing pharmaceutical compounds. .
	20.07	Demonstrate the ability to correctly fill and deliver medication cassettes.
	20.08	Collect data from medication administration record and drug use and evaluation form.
	20.09	Demonstrate use of automated medication dispensing equipment.
21.0	Prepackage unit dose medications--The student will be able to:	
	21.01	Locate correct stock container.
	21.02	Measure, count required individual doses of medication.
	21.03	Label with required information utilizing “tall man” lettering.
	21.04	Operate unit dose packaging equipment.
	21.05	Place individual dose in appropriate containers, ~~re~~ prepackage in predetermined quantities.
	21.06	Prepackage unit dose hazardous drugs.
	21.07	Record prepackaged medication data correctly.
	21.08	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prepackaging unit dose medication.
22.0	Prepare sterile products --The student will be able to:	

22.01	Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
22.02	Compare medication order with label on vial and check expiration date of product.
22.03	Calculate drug dosage for parenteral use.
22.04	Articulate common drug incompatibilities.
22.05	Reconstitute parenteral medications.
22.06	Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.
22.07	Use aseptic technique to withdraw medication from an ampule.
22.08	Prepare parenteral solutions and discuss current intravenous preparation industry trends.
22.09	Perform the preparation of total Parenteral Nutrition solutions.
22.10	Perform the preparation of chemotherapeutic agents using proper safety techniques.
22.11	Utilize the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
22.12	Place label on IV solution container and keep records.
22.13	Perform quality control check.
22.14	Convey an understanding of storage requirements of reconstituted IV solutions.
22.15	Convey an understanding of the proper disposal of hazardous Drugs.
22.16	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.
Pharmacy Management (23-26)	
23.0	Perform consumer economic activities–The student will be able to:
23.01	Identify basic concepts of the American economic system.
23.02	Identify basic types and sources of consumer credit.
24.0	Perform decision making activities–The student will be able to:
24.01	Demonstrate the ability to determine the roper priority of work.
24.02	Prepare a day’s schedule for the employer.

	24.03 Choose appropriate action in situations requiring application of business ethics.
	24.04 Choose appropriate action in situations requiring following a chain of command.
	24.05 Choose appropriate action in situations requiring effective time management.
25.0	Demonstrate leadership skills–The student will be able to:
	25.01 Prepare an agenda.
	25.02 Demonstrate the ability to conduct an orderly meeting.
	25.03 Greet and introduce individuals.
	25.04 Demonstrate ability to give clear directions, fair assignments & constructive criticism.
	25.05 Demonstrate ability to manage a team.
26.0	Identify, classify, and demonstrate management activities–The student will be able to:
	26.01 Define management.
	26.02 Identify various management positions.
	26.03 Identify various management styles.
	26.04 Identify the major functions of management.
	26.05 Classify activities as part of the planning function of management.
	26.06 Classify activities as part of the organizing function of management.
	26.07 Classify activities as part of the staffing function of management.
	26.08 Classify activities as part of the directing function of management.
	26.09 Classify activities as part of the controlling function of management.
	26.10 Demonstrate the ability to perform planning, organizing, staffing, directing, and controlling activities of management.
	26.11 Demonstrate knowledge of the relationship between authority and responsibility to task accomplishment.
	26.12 Select the most effective communication systems.
	26.13 Identify problems and make appropriate decisions.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical practicum experiences are an integral part of this program.

Special Notes

The following ATD programs have been approved by the Florida State Board of Education for statewide articulation credit into this degree program

Pharmacy Technician-ATD (0351080507/0351080503) – 40 credit hours

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Certified Pharmacy Technician (PTCBD001) –9 credits

This program must be approved by the Board of Pharmacy. Program completers who wish to work as Pharmacy Technicians in the State of Florida must register with the Board of Pharmacy (465.014 F.S.).

Due to the clinical experiences students are engaged in through the program and to ensure the safety of both the students and the patients the recommended student to instructor ratio in the classroom is 20:1 and in the lab is 4:1.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

It is recommended that program completers take national pharmacy technician certification exam offered by the Pharmacy Technician Certification Board, 2215 Constitution Ave, Washington, DC 20037-2985, (202) 429-7576. This certification is offered three times annually.

Cooperative training - OJT is appropriate for this program. When cooperative training is offered, the following is required for each student: a training plan, signed by the student, instructor and employer which includes instructional objectives and a list of on-the-job and in-school learning

experiences; a workstation which reflects equipment, skills and tasks which are relevant to the occupations which the student has chosen as a career goal. Students must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Physical Therapist Assistant**
Career Cluster: **Health Science**

AS	
CIP Number	1351080601
Program Type	College Credit
Standard Length	74 credit hours
CTSO	HOSA: Future Health Professionals; APTA
SOC Codes (all applicable)	31-2021 Physical Therapist Assistants

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as physical therapist assistants SOC Code 31-2021 (Physical Therapist Assistants).

The content includes but is not limited to the requirements of the Commission on Accreditation in Physical Therapy Education/American Physical Therapy Association, 1111 North Fairfax Street, Alexandria, VA 22314, (703) 684-2782.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 74 credit hours.

Regulated Programs

The graduate of this program is prepared to make an application to the Florida Physical Therapist Assistant licensing examination which is given by the Florida Department of Health, Board of Physical Therapy Practice.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Describe anatomical structure, function and dysfunction of the human body related to the practice of physical therapy.
13.0 Demonstrate ethical and legal practice as a physical therapist assistant.
14.0 Demonstrate the knowledge and skills necessary to provide comprehensive patient/client management and implement a comprehensive plan of care as established by a physical therapist.
15.0 Demonstrate competence in implementing selected components of interventions identified in the plan of care established by a physical therapist.
16.0 Demonstrate competence in performing components of data collection skills essential for carrying out the plan of care by administering appropriate tests and measures (before, during and after interventions).
17.0 Participate in the health care environment as a member of a patient/client -centered interprofessional collaborative team

Florida Department of Education
Student Performance Standards

Program Title: **Physical Therapist Assistant**
CIP Number: **1351080601**
Program Length: **74 credit hours**
SOC Code(s): **31-2021**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:
Physical Therapist Assistant: Intended outcomes (12-17) lead to the occupational completion point of Physical Therapist Assistant.
12.0 Describe anatomical structure, function and dysfunction of the human body related to the practice of physical therapy. –The student will be able to:
12.01 Label the following topographic terms: 12.01.01 Medial 12.01.02 lateral 12.01.03 proximal 12.01.04 distal 12.01.05 superior 12.01.06 inferior 12.01.07 anterior 12.01.08 posterior 12.01.09 midline 12.01.10 right and left 12.01.11 bilateral
12.02 Chart the life support chain, aerobic metabolism and anaerobic metabolism.
12.03 Define anatomy, physiology, pathophysiology and homeostasis.
12.04 Identify and describe the anatomical structures and functions of the following: 12.04.01 Circulatory/ Cardiovascular system 12.04.02 Endocrine and metabolic system

	12.04.03	Gastrointestinal/Digestive system 12.04.04 Genital and Reproductive system 12.04.05 Hematologic system 12.04.06 Hepatic and Biliary system 12.04.07 Immune System 12.04.08 Integumentary system 12.04.09 Lymphatic System 12.04.10 Musculoskeletal System 12.04.11 Nervous System 12.04.12 Respiratory System 12.04.13 Renal and Urologic systems
	12.05	Describe medical/surgical conditions and related treatment across the lifespan.
13.0	Demonstrate ethical and legal practice as a physical therapist assistant. –The student will be able to:	
	13.01	Act in a manner that is consistent with the American Physical Therapy Association's Standards of Ethical Conduct for the Physical Therapist Assistant.
	13.02	Demonstrate an understanding of the laws and regulations governing the profession of physical therapy.
	13.03	Practice under the direction and supervision of a physical therapist (PT).
	13.04	Demonstrate behaviors consistent with the American Physical Therapy Association's Value Based Behaviors for the Physical Therapist Assistant.
	13.05	Demonstrate awareness of the patient/client's need for dignity and independence.
	13.06	Recognize patient/client expressions of discomfort, spoken or unspoken (body language).
	13.07	Demonstrate sensitivity to the patient/client's emotional response.
	13.08	Recognize own reaction to the patient/client's illness or disability.
	13.09	Recognize patient/client's and family's reactions to illness and disability.
	13.10	Respect individual, cultural, religious and socio-economic differences in people.
	13.11	Utilize appropriate communication channels.
	13.12	Identify scope of responsibility of the physical therapist assistant as it relates to patient/client care, departmental function, the physical therapist and the physical therapy aide.
	13.13	Determine tasks and duties that are beyond the scope of practice for the physical therapist assistant.
	13.14	Communicate information to the appropriate individual, with an understanding / recognition of the proper chain of command.
	13.15	Utilize resources efficiently and effectively in the delivery of healthcare.

	13.16	Manage time effectively.
	13.17	Adhere to legal practice standards, including all federal, state, and institutional regulations related to patient/client care and fiscal management.
	13.18	Report to appropriate authorities suspected cases of abuse of vulnerable populations.
	13.19	Report to appropriate authorities suspected cases of fraud and abuse related to the utilization of and payment for physical therapy and other health care services.
	13.20	Implement, in response to an ethical situation, a plan of action that demonstrates sound moral reasoning congruent with core professional ethics and values.
	13.21	Apply current knowledge, theory, and clinical judgment while considering the patient/client perspective and the environment, based on the plan of care established by the physical therapist.
	13.22	Identify basic concepts in professional literature including, but not limited to, validity, reliability and level of statistical significance.
	13.23	Identify and integrate appropriate evidence based resources to support clinical decision making for progression of the patient/client within the plan of care established by the physical therapist.
	13.24	Participate in professional and community organizations that provide opportunities for volunteerism, advocacy and leadership.
	13.25	Identify career development and lifelong learning opportunities, including the role of the physical therapist assistant in the clinical education of physical therapist assistant students.
14.0	Demonstrate the knowledge and skills necessary to provide comprehensive patient/client management and implement a comprehensive plan of care as established by a physical therapist. – The student will be able to:	
	14.01	Participate in discharge planning and follow up care.
	14.02	Review patient/client medical record and identify pertinent information related to the patient/clients' diagnosis.
	14.03	Interview patient/clients, caregivers, and family to obtain current information and report relevant information to the supervising PT.
	14.04	Identify indications and contradictions for each treatment/procedure and apply appropriate interventions.
	14.05	Report any changes in patient/client status or progress to the supervising physical therapist.
	14.06	Communicate an understanding of the plan of care developed by the physical therapist to achieve short and long term goals and intended outcomes.
	14.07	Determine a baseline physiological state.
	14.08	Recognize changes in a baseline physiological state.
	14.09	Determine significance of change in physiological state.
	14.10	Use the International Classification of Functioning, Disability and Health (ICF) to describe a patient's/client's impairments, activity and participation limitations.
	14.11	Monitor and adjust interventions in the plan of care in response to patient/client status and clinical indications.

15.0	Demonstrate competence in implementing selected components of interventions identified in the plan of care established by a physical therapist. – The student will be able to:
15.01	Administer activities of daily living and functional training to patients/clients.
15.02	Perform gait training and postural training techniques.
15.03	Perform manual therapy techniques.
15.04	Perform balance and coordination activities.
15.05	Perform developmental activities.
15.06	Implement therapeutic exercise programs.
15.07	Apply external bandages, dressings and support devices.
15.08	Perform wound management.
15.09	Measure and properly fit assistive devices.
15.10	Perform gait training/locomotion training in household and community environments with appropriate assistive device(s) or wheelchair.
15.11	State the therapeutic benefits of exercise.
15.12	Define orthotics and prosthetic devices and state the importance of proper fit.
15.13	Describe upper and lower extremity prosthetics in terms of types of amputations.
15.14	Identify common problems in orthotic and prosthetic management and apply decision making skills in dealing effectively with them.
15.15	Instruct patient, client or care giver in orthotic and prosthetic management and assist patient/client in problem solving techniques.
15.16	Perform postural drainage and instruct patient/client in proper coughing and breathing exercises.
15.17	Describe action required to remediate barriers based on the plan of care established by the physical therapist.
15.18	Effectively educate others using teaching methods that are commensurate with the needs of the patient/client, caregiver or healthcare personnel.
15.19	Demonstrate appropriate use of medical terminology and layman's terms.
15.20	Define and describe the importance of the following terms: 15.20.01 disinfect 15.20.02 sterilize 15.20.03 germicide 15.20.04 vaccinate

		15.20.05 immunize 15.20.06 antiseptic 15.20.07 septic
	15.21	Disinfect equipment after each use.
	15.22	State the therapeutic temperature range for modalities in which temperature is a guideline for application.
	15.23	Identify physiological effects of heat vs. cold applications.
	15.24	Demonstrate appropriate therapeutic use of biophysical agents including biofeedback, electrotherapeutic agents, compression therapies, cryotherapy, hydrotherapy, superficial and deep thermal agents, traction, and light therapies.
16.0	Demonstrate competence in performing components of data collection skills essential for carrying out the plan of care by administering appropriate tests and measures (before, during and after interventions). – The student will be able to:	
	16.01	Describe normal and abnormal motor behavior.
	16.02	Assist physical therapist in collecting data related to a patient/client's disability and condition.
	16.03	Detect and describe normal and abnormal joint movement.
	16.04	Perform appropriate measurement and assessment techniques within the knowledge and limits of practice to assist the supervising physical therapist in monitoring and modifying the plan of care.
	16.05	Recognize gait deviations.
	16.06	Demonstrate competence in performing components of data collection skills essential for carrying out the plan of care such as standard vital signs, anthropometrical characteristics and mental functions.
	16.07	Perform goniometric measurement.
	16.08	Identify which environmental factors are potential architectural barriers.
	16.09	Determine which architectural barriers will impact a patient/client's functional level including the use of ambulatory/mobility equipment.
	16.10	Document all aspects of treatment using correct format, content and terminology.
	16.11	Demonstrate the measurement of standard vital signs; recognize and monitor responses to positional changes and activities (e.g., orthostatic hypotension, response to exercise)
	16.12	Identify the individual's and caregiver's ability to care for the device; recognize changes in skin condition and safety factors while using devices and equipment
	16.13	Determine the safety, status, and progression of patients while engaged in gait, locomotion, balance, wheelchair management and mobility
	16.14	Detect absent or altered sensation; normal and abnormal integumentary changes; activities, positioning, and postures that aggravate or relieve pain or altered sensations, or that can produce associated skin trauma; and recognize viable versus nonviable tissue
	16.15	Measure muscle strength by manual muscle testing; observe the presence or absence of muscle mass; recognize normal and

		abnormal muscle length, and changes in muscle tone
	16.16	Administer standardized questionnaires, graphs, behavioral scales, or visual analog scales for pain; recognize activities, positioning, and postures that aggravate or relieve pain or altered sensations
	16.17	Determine normal and abnormal alignment of trunk and extremities at rest and during activities
	16.18	Detect signs and symptoms of respiratory distress, and activities that aggravate or relieve edema, pain, dyspnea, or other symptoms; describe thoracoabdominal movements and breathing patterns with activity, and cough and sputum characteristics
	16.19	Respond effectively to patient/client and environmental emergencies that commonly occur in the clinical setting.
17.0	Participate in the health care environment as a member of a patient/client -centered interprofessional collaborative team. – The student will be able to:	
	17.01	Prepare patient/clients and treatment areas and ensures equipment is in proper working order.
	17.02	Recognize the importance of routine maintenance of equipment.
	17.03	Clean and check operation of wheelchairs, assistive devices, treatment tables, electrical equipment, etc.
	17.04	Demonstrate how to properly operate patient/client equipment.
	17.05	Instruct in safety considerations for equipment and on indications/contraindications of a specific physical therapy intervention.
	17.06	Implement appropriate patient/client safety goals.
	17.07	Describe disciplines within the healthcare system and identify the roles of each discipline.
	17.08	Describe the categories of healthcare agencies.
	17.09	Recognize current issues and problems affecting the delivery of healthcare.
	17.10	Correctly and ethically charge for services provided.
	17.11	Participate in performance improvement activities (quality assurance).

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Laboratory work is structured so that students begin with basic patient care skills, progress to basic physical therapy skills and then to more advanced physical therapy application and techniques.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The Health Careers Core must be taken by all students (secondary, postsecondary adult and postsecondary vocational) planning to complete any Health Occupations program. Once successfully completed, the core does not need to be repeated at any instructional level.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

The cooperative method of instruction is not appropriate for this program.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Cardiovascular Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351090100
Program Type	College Credit
Standard Length	77 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2031 Cardiovascular Technologists and Technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as cardiovascular technologists, SOC Code 29-2031 (Cardiovascular Technologists and Technicians).

The content includes but is not limited to instruction in performing examinations leading to diagnosis and treatment of patients with cardiovascular disease. A clinical component is a necessary element to a program. Reinforcement of basic skills in English, mathematics and science occurs through classroom instruction and applied laboratory practice.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 77 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Explore career opportunities in invasive cardiovascular technology (cardiac catheterization, invasive cardiac electrophysiology and non-invasive adult echocardiography, pediatric echocardiography, non-invasive vascular technology.
13.0 Identify the anatomic structure and function of body systems in relation to cardiovascular disease and studies.
14.0 Demonstrate the ability to recognize normal and abnormal electrocardiogram (EKG) rhythms and arrhythmias as each apply to intra-procedural therapies.
15.0 Practice safety and quality assurance.
16.0 Follow professional principles related to the practice of cardiovascular technology.
17.0 Use basic medical electronics and medical instrumentation.
18.0 Describe the role of the cardiovascular technologist in catastrophic event management.
19.0 Discuss the pharmacological aspects of cardiovascular drugs.
20.0 Perform patient care, record patient history and practice effective communication.

One of the following sub-specialties must be added to the intended outcomes for students to complete the Cardiovascular Technology A.S.:

21.0 Assist in all aspects of invasive cardiovascular diagnostic and interventional procedures and techniques with emphasis on cardiovascular catheterization.
22.0 Perform noninvasive cardiovascular techniques with an emphasis on echocardiography.
23.0 Perform noninvasive peripheral vascular studies.
24.0 Perform noninvasive cardiovascular techniques with an emphasis on echocardiography related to the pediatric patient.
25.0 Assist in all aspects of cardiovascular electrophysiology procedure.

Florida Department of Education
Student Performance Standards

Program Title: **Cardiovascular Technology**
CIP Number: **1351090100**
Program Length: **77 credit hours**
SOC Code(s): **29-2031**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
12.0	Explore career opportunities in invasive cardiovascular technology (cardiac catheterization, invasive cardiac electrophysiology and non-invasive adult echocardiography, pediatric echocardiography, non-invasive vascular technology –The student will be able to:
12.01	Describe the CVT profession, including but not limited to, history, accreditation, education, job conditions, salaries, critical thinking and team building.
12.02	Identify the cardiovascular professional organizations and discuss their roles (SDMS, ASE, ACO, SVT, SVU,SICP, HRS)
12.03	Discuss certification, licensure, and registration for the Cardiovascular Technologist.
12.04	Describe the sub-specialty of Invasive cardiovascular technology (Cardiovascular Catheterization) and identify the duties of the Cardiovascular Invasive Specialist.
12.05	Describe the sub-specialty of and identify the duties of the Cardiovascular Technologist.
12.06	Describe the sub-specialty of adult echocardiography and identify the duties of the Cardiovascular Technologist.
12.07	Describe the sub-specialty of pediatric echocardiography and identify the duties of the Cardiovascular Technologist.
12.08	Describe the sub-specialty of Non-invasive Vascular technologist and identify the duties of the Cardiovascular Technologist.
12.09	Describe the sub-specialty of cardiac electrophysiology and identify the duties of the Cardiovascular Technologist.
13.0	Identify the anatomic structure and function of body systems in relation to cardiovascular disease and studies–The student will be able to:
13.01	Describe human anatomy and physiology with emphasis on the cardiovascular systems.

	13.02 Discuss principles and methods of disease transmission and prevention.
	13.03 Identify normal and abnormal data obtained from medical tests.
	13.04 Describe basic acquired and congenital pathological conditions of the cardiovascular systems.
14.0	Demonstrate the ability to recognize normal and abnormal electrocardiogram (EKG) rhythms and arrhythmias as each apply to intra-procedural therapies–The student will be able to:
	14.01 Identify cardiac anatomy and the normal and abnormal electrical conduction pathways within the heart.
	14.02 Identify the inherent rates of each segment of the nodal pathway of the heart.
	14.03 Identify the components of a normal cardiac cycle including the hemodynamic, mechanical and electrical components.
	14.04 Associate each electrical segment of the EKG cycle (P wave, PR interval, QRS complex, ST segment, T wave, Isoelectric line) to the mechanical function of the heart.
	14.05 Explain how the PR interval and QRS complex are measured within the cardiac cycle.
	14.06 Identify sinus, atrial, junctional, supraventricular, and ventricular rhythms as well as heart blocks and paced rhythms.
	14.07 Correlate the clinical implications of arrhythmias to cardiac pathology.
	14.08 Differentiate artifact, interference, and noise versus arrhythmia.
15.0	Practice safety and quality assurance–The student will be able to:
	15.01 Apply acceptable safety practices in cardiovascular instrumentation.
	15.02 Demonstrate knowledge of radiation safety procedures.
	15.03 Demonstrate the practice of radiation safety procedures.
	15.04 Demonstrate knowledge of quality assurance as it relates to imaging equipment.
	15.05 Implement appropriate regulatory, institutional and department specific accreditation patient safety guidelines.
	15.06 Apply the knowledge of blood and air borne pathogens and the psychomotor skills to employ Standard precautions and safe practices to reduce occupational exposure.
16.0	Follow professional principles related to the practice of cardiovascular technology–The student will be able to:
	16.01 Carry out all responsibilities in the best interest of the patient in an excellent manner.
	16.02 Carry out assigned tasks conscientiously, honestly, enthusiastically, and accept responsibility for the task and the results.
	16.03 Function effectively as part of a team-adaptable to change and willing to teach others.

	16.04 Abide by the rules and procedures of the work site.
	16.05 Maintain a hygienic, professional appearance.
	16.06 Demonstrate pride and loyalty to the profession.
17.0	Use basic medical electronics and medical instrumentation–The student will be able to:
	17.01 Identify the duties related to electronic monitoring and diagnostic testing of patient.
	17.02 Demonstrate computer literacy skills as applied to cardiovascular practice.
	17.03 Operate equipment used in diagnostic testing, physiological monitoring and interventional procedures for cardiovascular patients.
	17.04 Set up, calibrate and operate selected equipment in the cardiovascular laboratory.
18.0	Describe the role of the cardiovascular technologist in catastrophic event management–The student will be able to:
	18.01 Follow institutional catastrophic event protocol.
	18.02 Respond to simulated emergency care situations encountered in a cardiovascular department.
	18.03 Identify the components of the defibrillator and how it is used.
	18.04 Cite the indications for cardiac defibrillation and cardioversion.
19.0	Discuss the pharmacological aspects of cardiovascular drugs–The student will be able to:
	19.01 State the mechanism of action of selected cardiovascular drugs.
	19.02 Identify and describe uses of pharmacological agents on an emergency "crash" cart.
	19.03 Use needles and syringes in preparing medications for administration in simulated practice.
20.0	Perform patient care, record patient history and practice effective communication–The student will be able to:
	20.01 Perform patient identification and time-out procedures.
	20.02 Examine the patients chart and/or electronic medical record in order to locate pertinent information.
	20.03 Perform a patient history pertinent to the cardiovascular exam.
	20.04 Practice patient care with emphasis on patient privacy, patient confidentiality, body mechanics, patient positions and patient transportation.
	20.05 Measure vital signs and differentiate between normal and abnormal values.

20.06	Cite the indications for and name the methods of oxygen administration.
20.07	Recognize human behaviors indicative of anxiety.
20.08	Identify and develop effective communication and interpersonal relations skills.
20.09	Discuss approaches used in dealing with a variety of hospitalized persons.
20.10	Describe socio-cultural traits which may affect a person's hospital care.
One of the following sub-specialties must be added to the intended outcomes for cardiovascular. Additional sub-specialties may be included, as desired. ***For those programs which include the invasive cardiovascular sub-specialty, the following student performance standards are necessary.**	
21.0	Assist in all aspects of invasive cardiovascular diagnostic and interventional procedures and techniques with emphasis on cardiovascular catheterization. –The student will be able to:
21.01	Describe the history of invasive cardiovascular procedures, including pioneers in the field.
21.02	Practice sterile technique as it applies to the cardiovascular catheterization set up and protocols for cardiovascular catheterization procedures.
21.03	Demonstrate the knowledge diagnostic left heart, right heart and vascular catheterization set up, protocols and procedures.
21.04	Apply communication skills and procedure knowledge in patient education pre, during and post procedure.
21.05	Perform diagnostic left heart, right heart and vascular catheterization set up, protocols and procedures.
21.06	Demonstrate the knowledge of diagnostic procedures in the cardiovascular cath lab including, but not limited to, angiography, IVUS (intravascular ultrasound), FFR (fractional flow reserve), optical coherence tomography (OCT), and electrophysiology studies.
21.07	Demonstrate the knowledge of interventional procedures in the cardiovascular cath lab including, but not limited to, angioplasty, stent implantation, thrombectomy, IABP (intraaortic balloon pumping), valvuloplasty, biopsy pericardiocentesis, atherectomy, closure devices, vena cava filters and LVADs and structural heart procedures (i.e. TAVR).
21.08	Describe catheter insertion techniques and assist physician with manipulation of catheterization equipment and instruments during the procedures.
21.09	Recognize cardiovascular anatomy through angiography and assess cardiovascular status from the data.
21.10	Recognize cardiovascular hemodynamic parameters and record and measure left and right heart and vascular pressures.
21.11	Determine cardiac output and cardiac index by Fick equation, thermodilution technique and angiographic technique and perform Hemodynamic calculations.
21.12	Perform calculations which include, but are not limited to, mean arterial pressure, ejection fraction regurgitation fraction, valve area using Gorlin formula and pulmonary and systemic vascular resistances.

21.13	Recognize presence of shunts by oximetry and perform shunt calculations.
21.14	Discuss permanent and temporary pacemaker protocols.
21.15	Correlate and calculate necessary data from right and left heart and vascular catheterization and assess the cardiovascular status from this information.
21.16	Demonstrate acceptable post-cath care of the patient and catheterization access site(s).
21.17	Identify complications which occur during cardiovascular catheterization procedures and describe treatment options.
21.18	Describe and perform venipuncture to initiate intravenous fluid therapy on a venipuncture model.
21.19	Maintain and troubleshoot existing intravenous/intra-arterial lines.
21.20	Demonstrate knowledge of basic x-ray history, theory, production, radiation biology and protection.
21.21	Demonstrate knowledge of patient assessment and practice patient care of the invasive Cardiovascular patient, including but not limited to basic assessment, history and physical, vital signs, lab values, CNS assessment, CVS assessment, peripheral vascular assessment etc.
21.22	Demonstrate the knowledge associated with cardiovascular catheterization procedures, including but not limited to Pre and post cardiovascular catheterization patient care, monitoring and recording, manipulation of imaging equipment, image acquisition quality control, scrubbing, and circulating.
21.23	Perform the psychomotor clinical skills associated with cardiovascular catheterization procedures, including but not limited to Pre and post cardiovascular catheterization patient care, monitoring and recording, manipulation of imaging equipment, image acquisition quality control, scrubbing, and circulating.
21.24	Demonstrate knowledge of the pharmacologic principles and medications required to function in the cardiovascular cath labs including pharmacology calculations and IV fluid therapy.
21.25	Administer medications during cardiovascular catheterization procedures under the direction of the physician.
21.26	Demonstrate knowledge and skills of ACLS protocols.
21.27	Demonstrate knowledge of the congenital and acquired cardiovascular diseases and their treatments found in cardiovascular patients.
21.28	Demonstrate knowledge of arterial and venous blood gas and acid-base physiology; identify normal and abnormal blood gas values, interpret blood gas and acid-base data, outline steps in collecting arterial and venous blood samples.
21.29	Discuss the main components of the blood clotting cascade, how different pathology and pharmacological agents affect the process, and how manual and mechanical arterial closure methods relate to post-op hemostasis.
***For those programs which include the adult echocardiography sub-specialty, these student performance standards are necessary.**	
22.0	Perform noninvasive cardiovascular techniques with an emphasis on echocardiography–The student will be able to:
22.01	Relate normal and abnormal heart sounds to specific cardiac pathology.

22.02	Assist in performance of stress electrocardiography and explain indications, contraindications, positive and negative test results.
22.03	Assist in performance of ambulatory electrocardiography and explain indications and test results.
22.04	Describe the physics of ultrasound as it applies to echocardiography and cardiac Doppler.
22.05	Demonstrate function and use of noninvasive cardiology equipment.
22.06	Perform, measure and analyze M-Mode and Two-Dimensional echocardiograms.
22.07	Perform, measure and analyze Color Flow Doppler exams.
22.08	Perform, measure and analyze interventional spectral Doppler echocardiography.
22.09	Demonstrate knowledge of pathophysiology of cardiovascular diseases as seen on echocardiography.
22.10	Perform and demonstrate knowledge of information derived from echocardiography, including but not limited to measurements, normal parameters and equations.
22.11	Demonstrate knowledge of patient assessment, and practice patient care of the cardiac patient.
22.12	Perform and demonstrate knowledge of non-invasive modalities and advance techniques, including but not limited to stress echo, effects of medication, normal/abnormal findings, holter monitoring, stress testing, transesophageal echocardiogram, 3D echocardiograms, contrast agents and provocation maneuvers.
***For those programs which include the noninvasive vascular technology sub-specialty, the following student performance standards are necessary.**	
23.0	Perform noninvasive peripheral vascular studies--The student will be able to:
23.01	Discuss the physics of ultrasound as it applies to Sonography imaging and Doppler, including but not limited to definition of sound, propagation of sound in tissue, Transducers and ultrasound imaging (,B, & M mode), artifacts and risks of bioeffects.
23.02	Discuss the physical principles and instrumentation as it applies to tissue perfusion, including but not limited to general physics and laws of hemodynamics, tissue mechanics and pressure transmission, & plethysmography.
23.03	Discuss normal vascular anatomy.
23.04	Interpret normal vascular ultrasonic anatomy.
23.05	Describe patient positioning with respect to vascular modalities.
23.06	Demonstrate knowledge of assessment and care of the cardiovascular patient.
23.07	Discuss circulatory hemodynamics as it applies to arterial, venous and cerebral hemodynamics.
23.08	Perform arterial patient physical assessment

23.09	Perform venous patient physical assessment.
23.10	Perform cerebrovascular patient physical assessment.
23.11	Perform noninvasive peripheral vascular evaluations, including venous, arterial, visceral and cerebral vascular studies.
23.12	Discuss therapeutic intervention as it relates to arterial, venous, visceral and cerebrovascular studies.
23.13	Describe test validation and measurements as they relate to vascular studies.
23.14	Demonstrate a knowledge of the pathophysiology and etiology of diseases of the circulatory system, including venous, arterial, visceral and cerebrovascular diseases.
23.15	Discuss appropriate action based on data interpretation
***For those programs which include the pediatric echocardiography sub-specialty, these student performance standards are necessary.**	
24.0	Perform noninvasive cardiovascular techniques with an emphasis on echocardiography related to the pediatric patient–The student will be able to:
24.01	Demonstrate knowledge of indication for echocardiogram and obtain information required for diagnosis and treatment of the pediatric patient.
24.02	Describe the physics of ultrasound as it applies to echocardiography and cardiac Doppler.
24.03	Demonstrate function and safe use of cardiac ultrasound equipment.
24.04	Demonstrate ability to acquire diagnostic images and utilization of proper display orientation.
24.05	Perform, measure and analyze M-Mode and Two-Dimensional echocardiograms.
24.06	Perform, measure and analyze Color Flow Doppler exams.
24.07	Perform, measure and analyze spectral Doppler and recognize application for assessment of blood flow and prediction of intracardiac pressures.
24.08	Demonstrate knowledge of cardiac cycles and related hemodynamics
24.09	Demonstrate knowledge of embryology, congenital heart diseases and acquired heart diseases.
24.10	Demonstrate knowledge of pathophysiology of cardiovascular diseases as seen on echocardiography.
24.11	Demonstrate knowledge of cardiac surgeries, allografts, interventional procedures and sequelae.
24.12	Perform and demonstrate knowledge of information derived from echocardiography, including but not limited to measurements, normal parameters and equations.
24.13	Demonstrate knowledge of limitations of echocardiography and Doppler techniques.

24.14	Demonstrate knowledge of patient assessment, and practice patient care of the pediatric cardiac patient.
24.15	Perform and demonstrate knowledge of advanced techniques, including but not limited to stress echo, effects of medication, normal/abnormal findings, stress testing, transesophageal echocardiogram, intra cardiac echo, 3D echo and contrast agents and provocation maneuvers.
***For those programs which include the invasive cardiac electrophysiology sub-specialty, the following student performance standards are necessary.**	
25.0	Assist in all aspects of Cardiovascular electrophysiology procedure–The student will be able to:
25.01	Describe the physiology of and indications for diagnostic and interventional EP procedures including, but not limited to, ventricular stimulation, syncope study, SVT study, single, dual and bi-ventricular internal cardiac device implant, venous angiography, PTVA, radiofrequency ablation, cryo-ablation, external cardioversion, internal cardioversion, pericardiocentesis, lead extraction and laser lead extraction.
25.02	Identify the complications associated with electrophysiology studies and internal cardiac device implants and describe emergency interventions.
25.03	Demonstrate knowledge and skills of ACLS protocols.
25.04	Demonstrate knowledge of and practice pre and post patient care for the patient undergoing diagnostic/interventional electrophysiology study and internal cardiac device implant to include review of history and physical, vital signs, lab values, medications and peripheral vascular assessment.
25.05	Identify diagnostic and interventional catheters, their use, and how they could be configured for EGM acquisition.
25.06	Describe catheter insertion techniques for manipulation of temporary & permanent pacing and interventional catheters.
25.07	Practice sterile technique as it applies to the preparation of self and patients for electrophysiology procedures and internal cardiac device implants.
25.08	Perform patient and sterile table set up for diagnostic and interventional ventricular, syncope and SVT electrophysiology procedures and internal cardiac device implants.
25.09	Perform as a scrub and record technologist assisting physicians with diagnostic and interventional EP procedures including, but not limited to, ventricular stimulation, syncope study, SVT study, single, dual chamber, and bi-ventricular internal cardiac device implant, venous angiography, PTVA, radiofrequency ablation, cryo-ablation, external cardioversion and internal cardioversion.
25.10	Identify and properly utilize surgical instruments while assisting with internal cardiac device implants.
25.11	Identify the ionic properties of the cardiac action potential and the changes to the action potential associated with abnormal values.
25.12	Identify the normal refractory periods of the nodes & tissue and describe the effects that antiarrhythmics may have on them.
25.13	Identify intra-cardiac electrograms from the right & left atrium, at the AV node, bundle of His, right & left ventricles and in the coronary sinus.
25.14	Identify and describe the mechanism and perform differential diagnosis of cardiac arrhythmias including, but not limited to, ventricular tachycardia, AV nodal reentrant tachycardia, AV reentrant tachycardia, atrial flutter and atrial fibrillation.

25.15	Perform stimulation protocols and identify pharmacology used for induction, termination, and differential diagnosis of arrhythmias, including but not limited to, ventricular tachycardia's (ischemic, RVOT-VT, idiopathic LV VT & BBRT), AV nodal reentrant tachycardia, AV reentrant tachycardia, atrial flutter and atrial fibrillation.
25.16	Demonstrate knowledge of the pharmacologic principles and medications used for the care of patients in the cardiac electrophysiology lab.
25.17	Demonstrate knowledge of differential diagnosis techniques and treatment of congenital arrhythmias, including but not limited to, Brugada Syndrome, Long QT syndrome, Arrhythmogenic Right Ventricular Dysplasia and Wolf-Parkinson-White.
25.18	Identify the coronary venous system utilizing radiographic and angiographic imaging.
25.19	Identify venous and arterial hemodynamic waveforms while performing trans-septal puncture and respond appropriately to recognized data.
25.20	Perform in the record role, demonstrating knowledge of acquisition and evaluation of data, stimulator operations, and provide differential diagnosis of arrhythmias during electrophysiology and internal cardiac device procedures.
25.21	Demonstrate the ability to perform basic internal cardiac device programmer operations, including interrogation, diagnostic information retrieval, pacing & sensing thresholds, and emergency pacing.
25.22	Analyze diagnostic data and results of functional testing retrieved from pacemakers and internal cardiac devices.
25.23	Demonstrate appropriate post-procedure care for venous/arterial access sites and/or electrophysiology procedures or internal cardiac device implant sites.
25.24	Demonstrate knowledge of basic x-ray history, theory, production, biology and patient/employee safety.
25.25	Demonstrate critical behaviors and knowledge of quality control while manipulating imaging equipment, and providing image acquisition during diagnostic/interventional electrophysiology procedures and internal cardiac device implants.
25.26	Identify mapping technologies and theories currently used in ablation procedures: To include impedance based, hybrid and electromagnetically derived systems. Mapping theories such as: anatomical, high definition, voltage, isochronal, and CFE.
25.27	Identify the difference between bipolar and unipolar electrograms, including current filtering utilization.
25.28	Demonstrate basic knowledge of ICE(Intracardiac echocardiography) applications currently used during electrophysiology procedures.
25.29	Demonstrate knowledge of procedural focused aspects of the transeptal procedure used in EP labs. Including but limited to: Anatomical locations, equipment currently used, complications, indications, monitoring and scrub duties.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Basic preparation in English, Mathematics, and the Sciences are recommended prior to entering the Cardiovascular/Cardiopulmonary professional component of the curriculum. The following courses with an (*) marking those thought to be essential. (Prerequisite courses required to complete the program must be included in the listed program length credits.

_ English - Composition*
_ Communications - Speech
_ Electronic
_ Oral Biology
_ Anatomy & Physiology - General*
_ Math - Algebra *
_ Chemistry*
_ Physics*
_ Microbiology
_ Psychology - Social Skills
_ Computers (health informatics)
_ Keyboarding
_ Word processing
_ Hardware & systems
_ Software
_ Humanities - as required for graduation

Cardiovascular/cardiopulmonary technology educational programs will address one or more of the five basic sub-specialties: 1) invasive cardiovascular technology, 2) adult echocardiography) pediatric echocardiography, 4) noninvasive vascular study and 5) cardiac electrophysiology. Cardiopulmonary technology should include the additional component of pulmonary function testing. The Cardiovascular/Cardiopulmonary Technology Program may award an Associate of Applied Science (AAS) and/or Associate of Science (AS) degree within the program length guidelines. When the cardiovascular program competencies are offered, the program cannot exceed 77 credit hours.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

The program should meet the requirements of the American Medical Association and Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756, Phone: 727-210-2350, Fax: 727-210-2354 www.CAAHEP.org.

Graduates should be prepared to take the appropriate registry and/or state licensure examinations.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Services**
Career Cluster: **Health Science**

AS	
CIP Number	1351090402
Program Type	College Credit
Standard Length	73 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to all those objectives identified in the current U S Department of Transportation, National EMS Education Standards for both the EMT and Paramedic.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 73 credit hours.

Regulated Programs

The recommended instructor-student ratio may not exceed 1:6 pursuant to 401.1201 F.S. Clinical activity shall include appropriate patient assessment skills, intervention and documentation relevant to each clinical rotation.

This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the

Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Management practicum shall be provided in an agency which will provide the student with the opportunity to observe and practice the learning objectives.

All students must satisfy the requirements of both the EMT and Paramedic certificates prior to completion of the associate's degree.

The medical procedures performed by a Paramedic must be performed under the direction of a licensed physician with appropriate emergency experience according to Chapter 64J, Florida Administrative Code.

It is strongly recommended this program be accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs). Beginning January 1, 2013, National Registry for Emergency Medical Technicians (NREMT) will require students applying for Paramedic National certification to be from a CAAHEP/CoAEMSP accredited program.

Standards

After successfully completing this program, the student will be able to perform the following:

EMT: Completion of intended outcomes 01-63 lead to the student's eligibility to sit for the licensure exam for EMT.

01.0 Demonstration of a simple depth and foundational breadth of EMS systems.
02.0 Demonstration of a simple depth, simple breadth of research and evidence-based decision making.
03.0 Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness.
04.0 Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing.
05.0 Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication.
06.0 Demonstration of a simple depth and simple breadth of the principles of therapeutic communication.
07.0 Demonstration of a fundamental depth, foundational breadth of medical legality and ethics.
08.0 Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
09.0 Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms.
10.0 Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation.
11.0 Demonstrate the application of fundamental knowledge of life span development to patient assessment and management.
12.0 Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care.
13.0 Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency.
14.0 Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT.
15.0 Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT.
16.0 Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT.
17.0 Demonstrate a fundamental depth, foundational breadth of respiration.
18.0 Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation.
19.0 Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.**
20.0 Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations.
21.0 Demonstrate a fundamental depth, foundational breadth of the components of history taking.
22.0 Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment.
23.0 Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT.
24.0 Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations.
25.0 Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints.
26.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups.
27.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups.
28.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups.

29.0 Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups.
30.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups.
31.0 Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups.
32.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups.
33.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups.
34.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
35.0 Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups.
36.0 Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups.
37.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups.
39.0 Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups.
40.0 Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure.
41.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
42.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups.
43.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups.
44.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups.
45.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups.
48.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups.
49.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups.
50.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups.
51.0 Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries.

52.0 Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT.
53.0 Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT.
54.0 Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT.
55.0 Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT.
56.0 Demonstrate a simple depth, simple breadth of management of the patient with special challenges.
57.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
58.0 Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system.
59.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
60.0 Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response.
61.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
63.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster.

Paramedic: Completion of intended outcomes 64-125 lead to the student's eligibility to sit for the licensure exam for Paramedic.

64.0 Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems.
65.0 Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice.
66.0 Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness.
67.0 Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing.
68.0 Demonstrate a complex depth, comprehensive breadth of EMS communication system.
69.0 Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles.
70.0 Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS.
71.0 Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems.
72.0 Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals.
73.0 Demonstrate a comprehensive knowledge of pathophysiology of major systems.
74.0 Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development.
75.0 Demonstrate the application of fundamental knowledge of principles of public health.
76.0 Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology.
77.0 Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic.
78.0 Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic.
79.0 Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic.
80.0 Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation.
81.0 Demonstrate a complex depth, comprehensive breadth of scene management.
82.0 Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations.
83.0 Demonstrate a complex depth, comprehensive breath of the components of history taking.

84.0 Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment.
85.0 Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic.
86.0 Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations.
87.0 Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints.
88.0 Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups.
89.0 Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups.
90.0 Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups.
91.0 Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups.
92.0 Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups.
93.0 Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups.
94.0 Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups.
95.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups.
96.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
97.0 Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups.
98.0 Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups.
99.0 Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups.
100.0 Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups.
101.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups.
102.0 Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure.
103.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
104.0 Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups.
105.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups.
106.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups.
107.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
108.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
109.0 Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups.

110.0 Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups.
111.0 Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups.
112.0 Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups.
113.0 Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries.
114.0 Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic.
115.0 Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic.
116.0 Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic.
117.0 Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic.
118.0 Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic.
119.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
120.0 Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system.
121.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
122.0 Demonstrate a complex depth, comprehensive breadth of air Medical transport risks, needs and advantages.
123.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
124.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
125.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster.

Management Option: This option (outcomes 126-136) prepares students for administrative and supervisory positions in the Emergency Medical Services field.

126.0 Demonstrate leadership and administrative skills basic to management emergency medical service systems.
127.0 Interpret federal, state and local laws as they apply to emergency medical service systems.
128.0 Demonstrate knowledge of operational and organizational structures of emergency medical service systems.
129.0 Demonstrate knowledge of psychological problems and stressors in emergency medical service employees and find appropriate solutions.
130.0 Demonstrate knowledge of materials and supplies used in emergency medical service systems.
131.0 Demonstrate knowledge of occupational safety and health.
132.0 Demonstrate knowledge of appropriate workloads for each employee.
133.0 Review, approve and monitor departmental capital and operational budgets.
134.0 Identify and apply legal reimbursement systems.
135.0 Comply with accreditation standards of governmental or governmental-appointed agencies and organizations.
136.0 Demonstrate computer literacy.

Education Option: This option (outcomes 137-142) prepares students as trainers and/or instructors in the EMS field.

137.0 Demonstrate knowledge of basic teaching methods, learning and educational psychology.
138.0 Describe and discuss curriculum design and development.
139.0 Demonstrate appropriate measurement and evaluation skills.
140.0 Demonstrate mastery of required technical skills.
141.0 Demonstrate classroom management skills.
142.0 Demonstrate computer literacy.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Services**
CIP Number: **1351090402**
Program Length: **73 credit hours**
SOC Code(s): **29-2041**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
EMT: Completion of intended outcomes 01-63 lead to the student's eligibility to sit for the licensure exam for EMT.	
01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
01.01	Define Emergency Medical Services (EMS) systems.
01.02	Discuss the historical background of the development of the EMS system.
01.03	Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
01.04	Discuss the specific statutes and regulations regarding the EMS system in Florida.
01.05	Discuss vehicle and equipment readiness
01.06	Characterize the EMS system's role in prevention and public education.
01.07	Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.
01.08	Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
01.09	Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
01.10	Define quality improvement and discuss the EMT's role in the process.
01.11	Identify the basics of common methods of payment for healthcare services.
01.12	Analyze attributes and attitudes of an effective leader.
01.13	Demonstrate effective techniques for managing team conflict.
01.14	Describe factors that influence the current delivery system of healthcare.

	01.15 Discuss the importance of continuing medical education and skills retention.
	01.16 Assess personal attitudes and demeanor that may distract from professionalism.
	01.17 Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
	02.01 Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
	02.02 Explain the importance to assess and treat patients based on evidence based decision making.
	02.03 Interpret graphs, charts and tables.
	02.04 Measure time, temperature, distance, capacity, and mass/weight.
	02.05 Convert and use traditional and metric units.
	02.06 Make estimations, approximations and judge the reasonableness of the result.
	02.07 Convert time from a 12 hour format to a 24 hour format
	02.08 Demonstrate ability to evaluate and draw conclusions.
	02.09 Calculate ratios.
	02.10 Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:
	03.01 Explain the need to determine scene safety.

03.02	Discuss the importance of body substance isolation (BSI).
03.03	Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.
03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
03.11	State the guidelines for reaching and their application.
03.12	State the guidelines for pushing and pulling.
03.13	Discuss patient positioning in common emergency situations.
03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.15	Define “infectious disease” and “communicable disease.”
03.16	Describe the routes of transmission for infectious disease.
03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.18	Explain how immunity to infectious diseases is acquired.
03.19	Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
03.20	Describe the components of physical fitness and mental wellbeing.
03.21	Identify personal health practices and environmental factors which affect function of each of the major body systems.
03.22	Develop an awareness of complementary and alternative health practices.
03.23	Explain the basic concepts of positive self-image, wellness and stress.
03.24	Develop a wellness and stress control plan that can be used in personal and professional life.

	03.25 Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture's MyPlate food guide.)
	03.26 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.
	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:

	05.01 Understand the basic principles of the various types of communications equipment used in EMS
	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.
	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.
	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.

07.03	Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
07.04	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.05	Explain the importance, necessity and legality of patient confidentiality.
07.06	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.07	Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
07.08	Differentiate between civil tort and criminal actions
07.09	List the elements of negligence and defenses/protections from liability.
07.10	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.11	Define ethics and morality and discuss their implication for the EMT.
07.12	Differentiate between licensure and certification as they apply to EMS.
07.13	Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
07.16	Describe the appropriate patient management and care techniques in a refusal of care situation.
07.17	Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
07.18	Describe the criteria necessary to honor an advance directive.
07.19	Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
08.01	Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal

	08.01.05 superior 08.01.06 inferior 08.01.07 anterior 08.01.08 posterior 08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
08.02	Chart the life support chain, aerobic metabolism and anaerobic metabolism.
08.03	Define anatomy, physiology, pathophysiology and homeostasis.
08.04	Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
08.05	Explain cellular anatomy and physiology.
08.06	Explain cellular respiration.
08.07	Discuss cell division.
08.08	Describe the different types of muscle tissues including skeletal, smooth and cardiac.
08.09	Describe the functions and divisions of the skeletal system including the classifications of bones.
08.10	Name and identify the location of the bones of the axial and appendicular skeleton.
08.11	Describe the classification and types of joints.
08.12	Describe the function of muscles.
08.13	Identify major muscles of the body

	08.14 Describe the general function of the respiratory system and its structures.
	08.15 Discuss the mechanisms of breathing including: 08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes 08.15.03 Dead space 08.15.04 Lung compliance
	08.16 Explain the diffusion of gases in external and internal respiration.
	08.17 Describe oxygen and carbon dioxide transport in the blood.
	08.18 Describe nervous and chemical mechanisms that regulate Respirations.
	08.19 Discuss respiration and acid-base balance.
	08.20 Describe the composition and function of blood and plasma.
	08.21 Identify and describe the anatomical structures and functions of the cardiovascular system.
	08.22 Discuss the hemodynamics of blood pressure.
	08.23 Discuss the role of nutrition, metabolism and body temperature on body function.
	08.24 Describe the causes, advantages and disadvantages of a fever
	08.25 Discuss the hypothalamus functions as the thermostat in the body
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:
	09.01 Identify medical terminology word parts such as: 09.01.01 root words 09.01.02 prefixes 09.01.03 suffixes 09.01.04 combining forms
	09.02 Correctly utilize medical terminology describing each of the following: 09.02.01 body structures 09.02.02 functions, 09.02.03 conditions and disorders 09.02.04 body regions 09.02.05 cavities 09.02.06 areas 09.02.07 landmarks
	09.03 Correctly use medical abbreviations and symbols.

	09.04 Read and understand basic medical documentation in medical records and medical reports.
	09.05 Communicate with healthcare professionals utilizing basic medical terminology.
	09.06 Explain the rationale for using accepted medical terminology correctly.
10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:
	10.01 Discuss signs of irreversible death.
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:
	12.01 Define public health and explain the goal of the public health field.
	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology

	12.05 Discuss ways of EMS involvement in injury prevention.
	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:
	13.01 Explain the “six rights” of medication administration and describe how each one related to EMS.
	13.02 Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
	13.03 Describe the difference between a generic medication name and trade name, and provide an example of each.
	13.04 Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
	13.05 Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
	14.01 Discuss the difference between administration versus assistance of patient medications.
	14.02 Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
	15.01 State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication 15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions

	15.01.09 Doses of medications
	15.02 Discuss the forms in which the medications may be found.
	15.03 Demonstrate the steps in properly inspecting each type of medication.
16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.

	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.
	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:
	17.01 Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02 Describe the oxygenation process
	17.03 Explain both external and internal respiration process
	17.04 Discuss the various pathophysiologies of the respiratory system.
	17.05 Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06 State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07 Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08 Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10 Demonstrate the correct operation of oxygen tanks and regulators.
	17.11 Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12 Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13 Discuss the differences between negative pressure and positive pressure ventilation.
18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:

	18.01 Demonstrate how to artificially ventilate a patient with a pocket mask.
	18.02 Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03 Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.
	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.
	20.03 Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).

	20.04	Discuss and demonstrate methods of assessing the airway and providing airway care.
	20.05	Describe and demonstrate methods used for assessing if a patient is breathing
	20.06	Differentiate between a patient with adequate and inadequate breathing.
	20.07	Distinguish between methods of assessing breathing for all age groups.
	20.08	Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09	Compare the methods of providing airway care in all age groups.
	20.10	Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11	Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12	Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13	Describe when it is appropriate to expose the patient completely
	20.14	Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:	
	21.01	Determine the chief complaint.
	21.02	Investigate the chief complaint.
	21.03	Describe components of the patient history
	21.04	Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05	Recognize and respond to the feelings patients experience during assessment.
	21.06	Discuss the value of obtaining a family and social history.
	21.07	Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:	
	22.01	Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02	Discuss the components and techniques of the physical exam and skills involved.
	22.03	Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.

	22.04 State the circumstances for performing a rapid assessment.
	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.

	24.05 Explain the rationale of recording additional sets of vital signs.
25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
	25.01 Identify the assessment factors for a patient with a medical complaint including:
	25.01.01 scene safety
	25.01.02 environmental factors
	25.01.03 chief complaint
	25.01.04 non-life threatening conditions
	25.01.05 distracting injuries
	25.01.06 tunnel vision
	25.01.07 patient cooperation
	25.01.08 rescuer attitude
	25.02 Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the nervous system.
	26.02 Describe the pathophysiology of the following neurologic disorders: 26.02.01 Altered Mental Status 26.02.02 Stroke 26.02.03 Transient Ischemic Attack 26.02.04 Headache 26.02.05 Seizures 26.02.06 Syncope
	26.03 Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.
	26.04 Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
	26.05 Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
	26.06 Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.
	26.07 Define “altered mental status” and identify the possible causes

	26.08 Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include: 26.08.01 strokes 26.08.02 headaches 26.08.03 seizures 26.08.04 altered mental status
	26.09 Discuss the transport of the stroke patient to the appropriate treatment center.
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	27.01 Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
	27.02 Describe the pathophysiology of the following abdominal and gastrointestinal disorders: 27.02.01 Abdominal Pain 27.02.02 Acute Abdomen 27.02.03 Peritonitis 27.02.04 Appendicitis 27.02.05 Pancreatitis 27.02.06 Cholecystitis 27.02.07 Gastrointestinal bleeding 27.02.08 Esophageal Varicies 27.02.09 Gastroenteritis 27.02.10 Ulcers 27.02.11 Intestinal Obstruction 27.02.12 Hernia 27.02.13 Abdominal Aortic Aneurysm
	27.03 Define the term," acute abdomen."
	27.04 Identify the signs and symptoms, and common causes of an acute abdomen.
	27.05 Define upper and lower gastrointestinal bleeding.
	27.06 Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.
	27.07 Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.
	27.08 Define acute gastroenteritis.
	27.09 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	27.10 Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology

	disorders/emergencies for all age groups. –The student will be able to:
	28.01 Define and differentiate allergic reaction and anaphylaxis
	28.02 Describe the pathophysiology of the following immunology disorders: 28.02.01 Allergic Reaction 28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
	28.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
	28.04 State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
	28.05 Demonstrate the use of epinephrine auto-injector
	28.06 Review the anatomy and physiology of the organs and structures related to anaphylaxis
	28.07 Describe the incidence, morbidity and mortality of anaphylaxis.
	28.08 Identify the risk factors most predisposing to anaphylaxis.
	28.09 Recognize the signs and symptoms related to anaphylaxis
	28.10 Describe the prevention of anaphylaxis and appropriate patient education.
	28.11 List common antigens most frequently associated with anaphylaxis.
	28.12 Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
	29.01 List the causes of infectious diseases
	29.02 Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus

	29.02.07	Multidrug-Resistant Organisms
29.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.	
29.04	Discuss mandatory notification to State or Federal agencies of various diseases.	
29.05	Identify patients with risk factors for infectious disease.	
29.06	Explain the principles and practices of infection control in prehospital care.	
29.07	Describe and discuss the rationale for the various types of PPE.	
29.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).	
29.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.	
29.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.	
29.11	Demonstrate the ability to comply with body substance isolation guidelines.	
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:	
30.01	Review the anatomy and physiology of the endocrine system and its main function in the body.	
30.02	Describe the pathophysiology of the following endocrine disorders:	
	30.02.01	Insulin Dependent Diabetes Mellitus
	30.02.02	Non-Insulin Dependent Diabetes Mellitus
	30.02.03	Hypoglycemia
	30.02.04	Hyperglycemia
	30.02.05	Diabetic Ketoacidosis(DKA)
	30.02.06	Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
30.03	Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.	
30.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.	
30.05	State the following for oral glucose:	
	30.05.01	Generic and trade names
	30.05.02	Medication forms
	30.05.03	Dose
	30.05.04	Administration
	30.05.05	Action
	30.05.06	Contraindications
30.06	Demonstrate the steps of using a glucometer device and administering oral glucose.	

	30.07 Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
	30.08 Discuss the general assessment findings associated with endocrinologic emergencies.
	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.
	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.

	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.
32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups. –The student will be able to:
	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.

33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.
	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning 33.02.02 Carbon Monoxide Poisoning 33.02.03 Cyanide Poisoning 33.02.04 Exposure to Acid or Alkaline Substances 33.02.05 Exposure to Hydrocarbons 33.02.06 Methanol Ingestion 33.02.07 Isopropanol Ingestion 33.02.08 Ethylene Glycol Ingestion 33.02.09 Exposure to Poisonous Plants 33.02.10 Drug Withdrawal 33.02.11 Alcoholic Syndrome 33.02.12 Withdrawal syndrome (including delirium tremens) 33.02.13 Illicit Drug Use 33.02.14 Medication Overdose
	33.03 List various ways that poisons enter the body.
	33.04 List signs/symptoms associated with poisoning.
	33.05 Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.
	33.06 Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
	33.07 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	34.01 Review the basic anatomy and physiology of the respiratory system.
	34.02 Describe the pathophysiology of the following respiratory disorders: 34.02.01 Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma 34.02.02 Pulmonary Edema 34.02.03 Spontaneous Pneumothorax 34.02.04 Hyperventilation Syndrome 34.02.05 Epiglottitis 34.02.06 Pertussis 34.02.07 Cystic Fibrosis 34.02.08 Pulmonary Embolism 34.02.09 Pneumonia

	34.02.10	Viral Respiratory Infections
	34.02.11	Poisonous Exposures
34.03	List signs of adequate air exchange.	
34.04	State the signs and symptoms of a patient with respiratory distress.	
34.05	Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.	
34.06	State the following for the metered-dose inhaler:	
	34.06.01	generic name
	34.06.02	medication forms
	34.06.03	dose
	34.06.04	administration
	34.06.05	action
	34.06.06	indications
	34.06.07	contraindications
34.07	Describe and demonstrate the steps in facilitating the use of an inhaler.	
34.08	Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.	
34.09	Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.	
34.10	Demonstrate proper use of airway and ventilation devices.	
34.11	Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.	
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:	
35.01	Review the anatomy and physiology of blood.	
35.02	Describe the pathophysiology of the following hematology disorders:	
	35.02.01	Anemia
	35.02.02	Sickle Cell Anemia / Sickle Cell Crisis
	35.02.03	Hemophilia
35.03	State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.	
35.04	Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.	
35.05	Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.	
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:	
	36.01.01	Review the basic anatomy and physiology of the genitourinary and renal systems

	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure
	36.03 Understand the basic principles of kidney dialysis.
	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.

39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
39.01	Discuss the recognition and management of an epistaxis.
39.02	Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.
40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
40.01	Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
40.02	Discuss and identify causes and pathophysiology of respiratory failure and arrest.
40.03	Discuss and identify causes and pathophysiology of cardiac failure or arrest.
40.04	Discuss the various types and degrees of shock.
40.05	Discuss and identify post resuscitation and management.
40.06	Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
40.07	Show Provider (AHA guidelines) certification required prior to rescuer program completion.
40.08	Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
40.09	Define and differentiate compensated and decompensated hemorrhagic shock.
40.10	Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
40.11	Demonstrate how to perform one and two rescuer CPR, adult, child, infant
40.12	Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
40.13	Demonstrate the steps of rescuer level appropriate post resuscitative care
40.14	Management and resuscitation of the critical patient
40.15	Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
40.16	Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
41.01	Discuss and define pathophysiology of the trauma patient

	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma. 41.04.01 Define energy, force, laws of motion 41.04.02 Explain the physics of trauma
	41.05 Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to occur and include: 41.05.01 Effects of high, medium and low velocity penetrating trauma 41.05.02 Primary, secondary, tertiary and miscellaneous blast injuries 41.05.03 Factors to consider of a patient injured in a fall. 41.05.04 Consider all age groups
	41.06 Describe the kinematics of penetrating injuries.
	41.07 Discuss the role of documentation in trauma.
	41.08 Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.
	41.09 Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
	41.10 Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)
	41.11 Discuss the National Trauma Triage Protocol of injured Patients
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:
	42.01 Review the anatomy and physiology of the circulatory system
	42.02 Review the different types of bleeding and classes of hemorrhage.
	42.03 List signs and symptoms of shock (hypo-perfusion).
	42.04 Describe the body's physiologic response to bleeding.
	42.05 Review the pathophysiology of hemorrhagic shock.
	42.06 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).
	42.07 Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.
	42.08 Demonstrate how to apply a commercial tourniquet.
	42.09 Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.

43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
	43.02 Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
	43.03 Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion, 43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:

45.01	Review the anatomy and physiology of the musculo-skeletal system.
45.02	and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains 45.02.03 Strains 45.02.04 Pelvic Injury 45.02.05 Amputation
45.03	Describe the different types of orthopedic injuries including: 45.03.01 Fractures 45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard

	45.15.02	Improvised
	45.15.03	Soft
	45.15.04	Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.	
46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:	
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.	
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.	
46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries:	
	46.03.01	wounds
	46.03.02	burns
	46.03.03	high pressure injection
	46.03.04	crush syndrome injuries
	46.03.05	compartment syndrome injuries
	46.03.06	contusion
	46.03.07	hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries:	
	46.04.01	abrasions
	46.04.02	lacerations
	46.04.03	major arterial lacerations
	46.04.04	avulsions,
	46.04.05	bites
	46.04.06	impaled objects
	46.04.07	amputations
	46.04.08	incisions
	46.04.09	crush injuries
	46.04.10	blast injuries
	46.04.11	Penetrations/punctures.
46.05	Identify types of burn injuries, including:	
	46.05.01	thermal burn
	46.05.02	inhalation burn
	46.05.03	chemical burn
	46.05.04	electrical burn
	46.05.05	radiation exposure
46.06	Describe the depth classifications of burn injuries, including:	
	46.06.01	superficial burn
	46.06.02	partial-thickness burn
	46.06.03	full-thickness burn
	46.06.04	Other depth classifications

	46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
	46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.
	46.09	Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents
	46.10	Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11	Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12	Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13	Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:	
	47.01	Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02	Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03	Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04	Recognize and manage life threats due to head, neck and spine trauma.
	47.05	Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06	Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.

48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including: 48.02.01 Increased intracranial pressure (ICP) 48.02.02 Concussion 48.02.03 Contusion
	48.03 Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including: 48.03.01 Brain Trauma 48.03.02 Spinal Cord Trauma 48.03.03 Cervical Spine Trauma
	48.04 Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.
	48.05 Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.
	48.06 Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.
	48.07 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
	48.08 Demonstrate specific management techniques for a patient with a suspected spinal cord injury.
	48.09 Demonstrate various methods for stabilization and removal of a helmet.
	48.10 Demonstrate documentation of assessment before, during and after spinal motion restriction.
	48.11 Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:
	49.01 Review the anatomy and physiology for the following trauma patients: 49.01.01 pregnant 49.01.02 pediatric 49.01.03 geriatric 49.01.04 cognitively impaired
	49.02 Discuss the pathophysiology and MOI of trauma in the following patients: 49.02.01 pregnant 49.02.02 pediatric 49.02.03 geriatric 49.02.04 cognitively impaired
	49.03 Discuss and demonstrate unique assessment and management considerations for the following trauma patients: 49.03.01 pregnant 49.03.02 pediatric

	49.03.03	geriatric
	49.03.04	cognitively impaired
49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.	
50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:	
50.01	Define drowning and discuss its incidence, rick factors and prevention.	
50.02	Discuss the pathophysiology and MOI of the following:	
	50.02.01	Drowning and water related incidents
	50.02.02	temperature-related illness
	50.02.03	bites and envenomation
	50.02.04	dysbarism such as high-altitude edema
	50.02.05	diving injuries
	50.02.06	lightning (electrical) injury
	50.02.07	high altitude illness
50.03	Describes and demonstrate the assessment and management for a patient with the following:	
	50.03.01	Drowning and water related incidents
	50.03.02	temperature-related illness
	50.03.03	bites and envenomation
	50.03.04	dysbarism such as high-altitude edema
	50.03.05	diving injuries
	50.03.06	lightning (electrical) injury
	50.03.07	high altitude illness
50.04	Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.	
50.05	Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.	
50.06	Explain the five ways a body can lose heat	
50.07	Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.	
50.08	Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.	
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:	
51.01	Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.	
51.02	Discuss the golden principle of out-of-hospital trauma care	
51.03	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.04	Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.	

52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:
52.01	Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy
52.02	Define the stages of labor and discuss how to assess them
52.03	Differentiate between normal delivery, abnormal delivery and complications associated with delivery.
52.04	Differentiate the management of a patient with predelivery emergencies from a normal delivery.
52.05	State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
52.06	Describe how to care for the newborn post-delivery.
52.07	Describe the management of the mother post-delivery.
52.08	State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
52.09	Describe the procedures for handling complications of pregnancy
52.10	Describe special considerations when meconium is present in amniotic fluid or during delivery.
52.11	Describe special patient care considerations of a premature baby.
52.12	Demonstrate how to listen to fetal heart tones.
52.13	Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
52.14	Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
52.15	Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:
53.01	Discuss and demonstrate assessment and management considerations of a neonate.
53.02	Define the term neonate.
53.03	Identify the factors that lead to premature birth and low birth weight newborns.
53.04	Calculate the APGAR score given various newborn situations.
53.05	Discuss the common signs when ventilator assistance is appropriate for a neonate.
53.06	Identify and discuss the use of oxygen/airway adjuncts in the neonate

	53.07 Discuss the steps in resuscitation of a neonate
	53.08 Discuss the signs of hypovolemia in a newborn.
	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.
	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.

	54.12	Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13	Describe the common causes, assessment and management of neurological emergencies in infants and children.
	54.14	Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15	Demonstrate proper technique for suctioning of infants and children.
	54.16	Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17	Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18	Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:	
	55.01	Define and discuss the term “geriatrics.”
	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer’s disease and Parkinson’s disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.

56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:
56.01	Define child abuse / neglect
56.02	Define children with special health care needs.
56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
56.05	Discuss the pathophysiology of children with special health care needs including technology
56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
56.07	Discuss the incidence and categories of abuse and assault.
56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.
56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.

	56.21 Define hospice care and comfort care.
	56.22 List the stages of the grief process and relate them to an individual in hospice care.
	56.23 Describe airway maintenance devices typically found in the home care environment.
	56.24 Describe indwelling catheters, implanted central IV ports and central line monitoring.
	56.25 Identify failure of GI/GU devices found in the home care setting.
	56.26 Identify failure of ventilating devices found in the home care setting.
	56.27 Identify failure of vascular access devices found in the home care setting.
	56.28 Demonstrate the ability to assess a spouse, elder or child abused patient.
	56.29 Demonstrate the ability to assess a sexually assaulted patient.
	56.30 Demonstrate the assessment of a patient with a sensory deficit or developmental disability.
	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.

	58.03	Discuss the importance of NIMS (National Incidence Management System).
	58.04	Describe the functional components of the incident management system in terms of the following: 58.04.01 Command 58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning
	58.05	Differentiate between singular and unified command and when each is most applicable.
	58.06	Describe the role of command
	58.07	Describe the need for transfer of command and procedures for transferring it.
	58.08	List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging, 58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications
	58.09	Describe techniques used to allocate patients to hospitals and track them.
	58.10	List the physical and psychological signs of critical incident stress.
	58.11	Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:	
	59.01	Describe essential elements of scene size-up when arriving at a potential MCI.
	59.02	Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
	59.03	Describe the role of the physician at multiple casualty incidents.
	59.04	Define triage and describe the principles of triage.
	59.05	Describe the START (simple triage and rapid treatment) method of initial triage.

	59.06 Describe techniques used to allocate patients to hospitals and track them.
	59.07 List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control 59.07.03 Burn management 59.07.04 Patient packaging/immobilization
	59.08 List the physical and psychological signs of critical incident stress.
	59.09 Describe the role of critical incident stress management sessions in MCIs.
	59.10 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
	59.11 Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.
	59.12 Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:
	60.01 Discuss safe air medical operations.
	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.
	60.04 Describe the advantages and disadvantages of air medical transport.
	60.05 Identify the conditions/situations in which air medical transport should be considered.
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.
	60.07 Perform setting up an air medical helicopter landing zone.
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication
	61.02 Describe personal and patient safety during vehicle extrication.
	61.03 Explain the difference between simple access and complex access in vehicle extrication
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
	61.05 Discuss the use of simple hand tools used for vehicle extrication

	61.06	Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.
	61.07	List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems 61.07.03 catalytic converters and conventional fuel systems 61.07.04 stored energy 61.07.05 alternate fuel systems
	61.08	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
	61.09	Describe the electrical hazards commonly found at highway incidents (above and below ground).
	61.10	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
	61.11	Explain typical door anatomy and methods to access through stuck doors.
	61.12	Explain SRS or "air bag" systems and methods to neutralize them.
	61.13	Demonstrate the use of wood cribbing to stabilize a vehicle.
	61.14	Demonstrate how to gain access to a patient by using a spring- loaded center punch.
62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:	
	62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following: 62.01.01 poison control center 62.01.02 medical control 62.01.03 material safety data sheets (MSDS), 62.01.04 reference textbooks 62.01.05 computer databases 62.01.06 Computer-Aided Management of Emergency Operations (CAMEO) 62.01.07 CHEMTREC 62.01.08 technical specialists 62.01.09 Agency for toxic substances and disease registry
	62.02	Explain primary and secondary contamination risk.
	62.03	List and describe the following routes of exposure:
		62.03.01 topical
		62.03.02 respiratory
		62.03.03 gastrointestinal

	62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.	
62.05	List and explain the common signs, symptoms and treatment for the following substances:	
	62.05.01	corrosives (acids/alkalis)
	62.05.02	pesticides (carbamates / organophosphates),
	62.05.03	chemical asphyxiants (cyanide/carbon monoxide)
	62.05.04	hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients	
62.07	Determine the appropriate level of PPE by considering the following:	
	62.07.01	Types
	62.07.02	Application
	62.07.03	Use and Limitations
	62.07.04	Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.	
62.09	Demonstrate the donning and doffing of appropriate PPE.	
62.10	Set up and demonstrate an emergency two-step decontamination process.	
62.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials	
62.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material	
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:	
63.01	Describe the role of the EMT on the scene of a natural or man-made disaster	
63.02	Define the different types of terrorism and provide examples of incidents of each.	
63.03	Describe personal and patient safety during a natural or man-made disaster.	
63.04	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.	
63.05	Discuss the National Terrorism Advisory System	
63.06	Discuss factors to consider when responding to a terrorist situation	
63.07	Discuss important actions to take at the scene of a terrorist event such as:	
	63.07.01	scene safety
	63.07.02	personal protection
	63.07.03	notification procedures
	63.07.04	available resources

63.07.05	working with in the command system
63.08	List the main categories of weapons of mass destruction
63.09	Discuss the different types of chemical agents and their signs and symptoms
63.10	Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
63.11	Define the different types of radiations and their effect on the human body.
63.12	Demonstrate the use of a nerve agent antidote kit.

Paramedic: Completion of intended outcomes 64-125 lead to the student's eligibility to sit for the licensure exam for Paramedic.	
64.0	**EMS Systems:** Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems. –The student will be able to:
64.01	Define terms, including but not limited to: EMS systems, licensure, registration, profession, professionalism, health care professional, ethics, peer review, medical direction and protocols.
64.02	Describe the attributes of a paramedic as a health care professional.
64.03	Explain paramedic licensure/ certification, recertification, and reciprocity requirements in his or her state.
64.04	Evaluate the importance of maintaining one's paramedic license/ certification.
64.05	Describe the benefits of paramedic continuing education.
64.06	Discuss the role of national associations and of a national registry agency.
64.07	Discuss Chapter 401, Florida Statutes, and Chapter 64-E, Florida Administrative Code
64.08	Discuss the roles of various EMS standard setting agencies.
64.09	Identify the standards (components) of an EMS System as defined by the National Highway Traffic Safety Administration.
64.10	Describe examples of professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
64.11	Describe the importance of quality EMS research to the future of EMS.
64.12	Describe the role of the EMS physician in providing medical direction.
64.13	Provide examples of local protocols.
64.14	Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.

	64.15 Define the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
	64.16 Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
	64.17 Advocate the need for injury prevention, including abusive situations.
	64.18 Exhibit professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
	64.19 Discuss the diverse types of EMS services and how they affect the delivery of advanced pre-hospital care
65.0	**Research:** Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice. –The student will be able to:
	65.01 Interpret results, reach conclusions, and generate new ideas based on results
	65.02 Discuss the importance of evidenced based medicine and medical research and its role in refining EMS practices.
66.0	**Workforce Safety and Wellness:** Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness. –The student will be able to:
	66.01 Discuss the concept of wellness and its benefits.
	66.02 Discuss how cardiovascular endurance, muscle strength, and flexibility contribute to physical fitness.
	66.03 Describe the impact of shift work on circadian rhythms.
	66.04 Discuss how periodic risk assessments and knowledge of warning signs contribute to cancer and cardiovascular disease prevention.
	66.05 Differentiate proper from improper body mechanics for lifting and moving patients in emergency and non-emergency situations.
	66.06 Describe the problems that a paramedic might encounter in a hostile situation and the techniques used to manage the situation.
	66.07 Describe the equipment available for self-protection when confronted with a variety of adverse situations.
	66.08 Describe the three phases and factors that trigger the stress response.
	66.09 Differentiate between normal/ healthy and detrimental reactions to anxiety and stress.
	66.10 Identify and describe the defense mechanisms and management techniques commonly used to deal with stress.
	66.11 Describe the components of critical incident stress management (CISM).
	66.12 Describe the needs of the paramedic when dealing with death and dying.
	66.13 Discuss the importance of standard precautions and body substance isolation practices.

	66.14 Defend the need to treat each patient as an individual, with respect and dignity.
	66.15 Defend the need to respect the emotional needs of dying patients and their families.
	66.16 Identify the human, environmental, and socioeconomic impact of unintentional and alleged unintentional events.
	66.17 Identify health hazards and potential crime areas within the community.
	66.18 Describe the importance of effective documentation as one justification for funding of prevention programs.
67.0	**Documentation:** Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing. – The student will be able to:
	67.01 Identify the general principles regarding the importance of EMS documentation and ways in which documents are used.
	67.02 Identify and use medical terminology correctly.
	67.03 Record all pertinent administrative information to a given standard
	67.04 Analyze the documentation for accuracy and completeness, including spelling.
	67.05 Describe the differences between subjective and objective elements of documentation.
	67.06 Describe the potential consequences of illegible, incomplete, or inaccurate documentation.
	67.07 Describe the special considerations concerning patient refusal of transport.
	67.08 Explain how to properly record direct patient or bystander comments.
	67.09 Describe the special considerations concerning mass casualty incident documentation.
	67.10 Identify and record the pertinent, reportable clinical data of each patient interaction.
	67.11 Note and record pertinent negative clinical findings.
	67.12 Demonstrate proper completion of an EMS event record used locally.
68.0	**EMS Communication:** Demonstrate a complex depth, comprehensive breadth of EMS communication system. –The student will be able to:
	68.01 Identify the role of verbal, written, and electronic communications in the provision of EMS.
	68.02 Describe the phases of communications necessary to complete a typical emergency.
	68.03 Identify the importance of proper terminology when communicating during an emergency.
	68.04 List factors that impede effective verbal and written communications.

	68.05	List factors which enhance verbal and written communications.
	68.06	Recognize the legal status of written communications related to an emergency.
	68.07	Identify the components of the local EMS communications system and describe their function and use.
	68.08	Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.
	68.09	Describe the functions and responsibilities of the Federal Communications Commission.
	68.10	Describe how an emergency medical dispatcher (EMD) functions as an integral part of the EMS team.
	68.11	List appropriate information to be gathered by the Emergency Medical Dispatcher.
	68.12	Describe and organize a list of patient assessment information in the correct order for electronic transmission to medical direction according to the format used locally.
	68.13	State the proper procedures and sequence for delivery of patient information to other healthcare professionals.
69.0	**Therapeutic Communication:** Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles. – The student will be able to:	
	69.01	Identify internal and external factors that affect a patient/ bystander interview conducted by a paramedic.
	69.02	Review the strategies for developing patient rapport.
	69.03	Summarize the methods to assess mental status based on interview techniques.
	69.04	Discuss the strategies for interviewing a patient who is unmotivated to talk.
	69.05	Summarize developmental considerations of various age groups that influence patient interviewing.
	69.06	Review unique interviewing techniques necessary to employ with patients who have special needs.
	69.07	Discuss interviewing considerations used by paramedics in cross-cultural communications.
70.0	**Medical/Legal and Ethics:** Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS. –The student will be able to:	
	70.01	Differentiate between legal and ethical responsibilities.
	70.02	Differentiate between licensure and certification as they apply to the paramedic.
	70.03	List the specific problems or conditions encountered while providing care that a paramedic is required to report, and identify in each instance to whom the report is to be made.
	70.04	Review terms, including but not limited to, the following: abandonment, battery, breach of duty, consent (expressed, implied, informed, voluntary), DNR orders, duty to act, emancipated minor, false imprisonment, liability, libel, negligence, proximate cause, scope of practice, slander, and tort.

	70.05	Differentiate between the scope of practice and the standard of care for paramedic practice.
	70.06	Discuss the concept of medical direction, including off-line medical direction and on-line medical direction, and its relationship to the standard of care of a paramedic.
	70.07	Review the four elements that must be present in order to prove negligence.
	70.08	Review the legal concept of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
	70.09	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
	70.10	Review consent to include expressed, informed, implied, and involuntary.
	70.11	Given a scenario, demonstrate appropriate patient management and care techniques in a refusal of care situation.
	70.12	Differentiate between assault and battery and describe how to avoid each.
	70.13	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
	70.14	Describe the importance of providing accurate documentation (oral and written) in substantiating an incident.
	70.15	Describe the characteristics of a patient care report required to make it an effective legal document.
	70.16	Describe the criteria necessary to honor an advance directive in Florida.
	70.17	Demonstrate an understanding of the Paramedic's role in mandatory reporting associated with abused, neglected and/or assaulted patient.
71.0	**Anatomy and Physiology:** Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems. – The student will be able to:	
	71.01	Review the EMT standards and benchmarks for the Anatomy & Physiology and apply an integration of a complex depth and comprehensive breath of knowledge of the anatomy and physiology of all human body systems.
72.0	**Medical Terminology:** Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals. –The student will be able to:	
	72.01	Review the EMT standards and benchmarks for the medical terminology and apply an integration of comprehensive anatomical and medical terminology and abbreviations with colleagues and other health care professionals.
73.0	**Pathophysiology:** Demonstrate a comprehensive knowledge of pathophysiology of major systems. –The student will be able to:	
	73.01	Describe the factors that precipitate disease in the human body including familial diseases and risk factors.
	73.02	Describe environmental risk factors.
	73.03	Review terms including but not limited to: cardiogenic, hypovolemic, neurogenic, anaphylactic and septic shock.
	73.04	Describe multiple organ dysfunction syndrome (MODS)

	73.05 Discuss the correlation of pathophysiology with disease processes.
	73.06 Identify the Major classes of cells.
	73.07 Describe and discuss the cellular structure, function and components.
	73.08 Define the types of body tissues.
	73.09 Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury, and cellular death/necrosis.
	73.10 Discuss the cellular environment including distribution of body fluids, aging and distribution of body fluids, water movement between ICF and ECF, water movement between plasma and interstitial fluid, alterations in water movement - edema, water balance and the role of electrolytes, and acid-base balances.
	73.11 Describe genetics and familial diseases including factors causing disease, analyzing risk, combined effects and interaction among risk factors, and common familial disease and associated risk factors.
	73.12 Define hypoperfusion and discuss pathogenesis, types of shock, multiple organ dysfunction syndrome, cellular metabolism impairment.
	73.13 Describe the self –defense mechanisms including the lines of defense, characteristics of the immune response, introduction of the immune response, humoral immune response, cell-mediated immune response, cellular interactions in the immune response, fetal and neonatal immune function and aging and the immune response in the elderly.
	73.14 Describe the inflammation process including the acute inflammatory response, mast cells plasma protein systems, cellular components of inflammation, cellular products, systemic response of acute inflammation, chronic inflammation responses, local inflammation responses, phases of resolution and repair, and aging and self defense mechanisms.
	73.15 Discuss variances in immunity and inflammation including hypersensitivity, allergy, autoimmunity and isoimmunity, and immunity and inflammation deficiencies.
	73.16 Discuss blood volume circulation disturbances
	73.17 Describe the buffer system
74.0	**Life Span Development:** Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development. –The student will be able to:
	74.01 Compare, contrast and analyze the physiological and psychosocial characteristics of the following age groups to an early adult: 74.01.01 an infant 74.01.02 a toddler 74.01.03 pre-school child 74.01.04 school aged child 74.01.05 adolescent 74.01.06 middle aged adult
75.0	**Public Health:** Demonstrate the application of fundamental knowledge of principles of public health. –The student will be able to:
	75.01 Review the EMT standards and benchmarks for the public health and apply a fundamental knowledge of the principles of public health, epidemiology, health promotion and illness and injury prevention.

76.0	**Principles of Pharmacology:** Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology. –The student will be able to:
	76.01 Differentiate among the chemical, generic (nonproprietary), and trade (proprietary) names of a drug.
	76.02 List the four main sources of drug products.
	76.03 Describe how drugs are classified.
	76.04 List legislative acts controlling drug use and abuse in the United States.
	76.05 Differentiate among Schedule I, II, III, IV, and V substances.
	76.06 Use reference materials to research medications.
	76.07 Discuss standardization of drugs.
	76.08 Discuss investigational drugs, including the Food and Drug Administration (FDA) approval process and the FDA classifications for newly approved drugs.
	76.09 Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
	76.10 List and describe general properties of drugs.
	76.11 List and describe liquid and solid drug forms.
	76.12 List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
	76.13 Describe the process called pharmacokinetics, and pharmacodynamics, including theories of drug action, drug-response relationship, factors altering drug responses, predictable drug responses, iatrogenic drug responses, and unpredictable adverse drug responses.
	76.14 Describe specific medications used by rescuers in the prehospital setting.
	76.15 Describe common unintended adverse effects of medication administration.
	76.16 Discuss the prevention, recognition and management of adverse medication reactions.
	76.17 Anticipate how various factors, such as age, body mass, and others, can alter drug responses.
	76.18 Select the optimal medication and method of medication administration for patients with a particular clinical condition or situation.
77.0	**Medication Administration:** Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic. –The student will be able to:
	77.01 Review the specific anatomy and physiology pertinent to medication administration.
	77.02 Discuss the paramedic’s responsibilities and scope of management pertinent to the administration of medications.

77.03	Review mathematical principles and discuss equations as a basis for performing drug calculations.
77.04	Describe the indications, contraindications, procedure, equipment and risks associated with peripheral intravenous or external jugular access.
77.05	Describe the indications, equipment needed, technique used, precautions, and general principles of intraosseous needle placement and infusion.
77.06	Describe complications that can occur as a result of IV therapy.
77.07	Discuss the "six rights" of drug administration and correlate these with the principles of medication administration.
77.08	Describe the use of standard precautions and body substance isolation (BSI) procedures when administering a medication.
77.09	Prepare medications for administration from a variety of types of packaging, including vials, non-constituted vials, ampules, prefilled syringes, and packaging for intravenous solutions.
77.10	Describe the role of medical direction in medication administration and describe the difference between direct orders (online) and standing orders (off-line).
77.11	Explain why determining what medications (prescribed / OTC) a patient is taking is a critical aspect of patient assessment.
77.12	Describe the equipment needed and general principles of administering oral medications.
77.13	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 77.13.01 inhalation route 77.13.02 gastric tube 77.13.03 rectal route
77.14	Differentiate among the different percutaneous routes of medication administration.
77.15	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
77.16	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values as referenced in the National EMS educational guidelines: Paramedic Instructional Guidelines.
77.17	Demonstrate principles of medical asepsis in the administration of medications.
77.18	Synthesize a pharmacologic management plan including medication administration.
77.19	Demonstrate the procedure for disposal of contaminated items and supplies.
77.20	Demonstrate cannulation of peripheral or external jugular veins.
77.21	Demonstrate intraosseous needle placement and infusion.

	77.22 Demonstrate administration of medications by the following routes:	
	77.22.01	oral
	77.22.02	Sublingual
	77.22.03	Auto-injector
	77.22.04	inhalation route
	77.22.05	intranasal route.
	77.22.06	subcutaneous route.
	77.22.07	intramuscular route.
	77.22.08	intravenous route.
	77.22.09	intraosseous route.
78.0	**Emergency Medications:** Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic. –The student will be able to:	
	78.01 Identify medications used by the paramedic, including indications, contraindications, dosages, adverse reactions, side effects, and interactions for the following:	
	78.01.01	Airway management
	78.01.02	Respiratory
	78.01.03	Cardiovascular
	78.01.04	Neurologic conditions
	78.01.05	Gastrointestinal
	78.01.06	Miscellaneous medications
79.0	**Airway Management and Respiration:** Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic. –The student will be able to:	
	79.01 Explain the primary objective of airway maintenance.	
	79.02 Explain the differences between pediatric, adult and geriatric airway anatomy.	
	79.03 List the concentration of gases that comprise atmospheric air.	
	79.04 Describe the measurement of oxygen in the blood.	
	79.05 Describe the measurement of carbon dioxide in the blood.	
	79.06 Describe peak expiratory flow.	
	79.07 List factors that cause decreased oxygen concentrations in the blood.	
	79.08 List the factors that increase and decrease carbon dioxide production in the body.	

	79.09	Define pulses paradoxes.
	79.10	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV).
	79.11	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
	79.12	Define, identify and describe a tracheostomy, stoma, and tracheostomy tube.
	79.13	Define, identify, and describe a laryngectomy.
	79.14	Describe the special considerations in airway management and ventilation for the pediatric patient.
	79.15	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
	79.16	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
	79.17	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
	79.18	Describe the indications, contraindications, advantages, disadvantages and complications for performing an open cricothyrotomy.
	79.19	Demonstrate the procedure for percutaneous cricothyrotomy.
	79.20	Identify and describe the function of the structures located in the upper and lower airway.
	79.21	Discuss the physiology of ventilation and respiration.
80.0	**Artificial Ventilation:** Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation. –The student will be able to:	
	80.01	Perform pulse oximetry.
	80.02	Perform and interpret wave form capnography and colormetric in all age groups.
	80.03	Demonstrate proper use of airway and ventilation devices including administration of BIPAP/CPAP and PEEP devices.
	80.04	Demonstrate effective techniques of advanced airway management of the following: 80.04.01 orotracheal, 80.04.02 nasotracheal, 80.04.03 subglottic, 80.04.04 supraglottic, 80.04.05 digital intubation
	80.05	Describe and demonstrate methods of assessment for confirming correct placement of Any airway device
	80.06	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.

	80.07 Describe methods of endotracheal intubation in the pediatric patient.
	80.08 Demonstrate proper use of airway and ventilation devices.
	80.09 Demonstrate the procedure for the following : 80.09.01 lighted stylet 80.09.02 fiber optic
81.0	**Scene Size-Up:** Demonstrate a complex depth, comprehensive breadth of scene management. –The student will be able to:
	81.01 Describe common hazards found at the scene of a trauma and a medical patient.
	81.02 Discuss common mechanisms of injury/ nature of illness.
	81.03 Explain the rationale for crew members to evaluate scene safety prior to entering.
	81.04 Observe various scenarios and identify potential hazards.
	81.05 Demonstrate the scene-size-up.
82.0	**Primary Assessment:** Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations. –The student will be able to:
	82.01 Summarize the reasons for forming a general impression of the patient.
	82.02 Discuss and demonstrate methods of evaluating and assessing mental status.
	82.03 Categorize levels of consciousness in the pediatric, adult and geriatric patient.
	82.04 Discuss and demonstrate methods of assessing the airway in the pediatric, adult and geriatric patient.
	82.05 Describe and demonstrate methods used for assessing if a patient is breathing.
	82.06 Differentiate between the methods of assessing breathing and providing airway care to the pediatric, adult and geriatric patient.
	82.07 Differentiate between locating and assessing a pulse in the pediatric, adult and geriatric patient.
	82.08 Discuss the need for assessing the patient for external bleeding.
	82.09 Demonstrate the techniques for assessing the patient for external bleeding.
	82.10 Describe normal and abnormal findings when assessing skin color, temperature, and condition.
	82.11 Demonstrate the techniques for assessing if the patient has a pulse.
	82.12 Demonstrate the techniques for assessing the patient's skin color, temperature, and condition.
	82.13 Discuss and demonstrate prioritizing a patient for care and transport.

	82.14 Perform a detailed physical examination.
83.0	**History Taking:** Demonstrate a complex depth, comprehensive breath of the components of history taking. –The student will be able to:
	83.01 Describe the components and demonstrate techniques of patient history taking.
	83.02 Demonstrate the importance of empathy when obtaining a health history.
	83.03 Adapt communication strategies to communicate effectively with the following types of patients: patients of all ages; patients of various cultures; patients with sensory impairments; angry, hostile, uncooperative, silent or overly talkative patients; patients who are anxious , crying or depressed; patients who offer multiple complaints or symptoms; intoxicated patients
84.0	**Secondary Assessment:** Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment. –The student will be able to:
	84.01 Describe the techniques of inspection, palpation, percussion, and auscultation for patients of all ages
	84.02 Distinguish the importance of abnormal findings of the assessment of the skin.
	84.03 Differentiate normal and abnormal assessment findings of the mouth and pharynx.
	84.04 Appreciate the limitations of conducting a physical exam in the out-of-hospital environment.
	84.05 Demonstrate the examination of the patient including the following: 84.05.01 skin, hair and nails. 84.05.02 head and neck 84.05.03 eyes, ears and nose 84.05.04 mouth and pharynx 84.05.05 thorax and ventilation 84.05.06 peripheral vascular system 84.05.07 musculoskeletal system 84.05.08 nervous system
	84.06 Demonstrate the examination of the posterior chest including auscultation and percussion of the chest.
	84.07 Demonstrate the examination of the arterial pulse including location, rate, rhythm, and amplitude.
	84.08 Demonstrate special examination techniques of the cardiovascular examination.
	84.09 Demonstrate the examination of the abdomen including auscultation of the abdomen.
	84.10 Demonstrate the examination of the, and the.
	84.11 Describe the evaluation of patient’s perfusion status based on findings in the initial assessment.
	84.12 State the reasons for performing a rapid trauma assessment.

	84.13 Discuss the reason for performing a focused history and physical exam.
	84.14 Discuss the components of the detailed physical exam in relation to the techniques of examination.
	84.15 Demonstrate the external visual examination of the female genitalia.
	84.16 Demonstrate the examination of the male genitalia.
	84.17 Explain the reasons for identifying the need for additional help or assistance.
	84.18 State reasons for management of the cervical spine once the patient has been determined to be a trauma patient.
	84.19 Discuss the reasons for repeating the initial assessment as part of the on-going assessment.
	84.20 Describe the components of the on-going assessment.
	84.21 Discuss medical identification devices/ systems.
85.0	**Monitoring Devices:** Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
	85.01 Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 85.01.01 Continuous ECG monitoring 85.01.02 12-Lead ECG 85.01.03 Capnography (wave form) 85.01.04 Capnometry (colorimetric) 85.01.05 CO-oximetry 85.01.06 Methaglobin monitoring 85.01.07 Total hemoglobin 85.01.08 Basic blood chemistry 85.01.09 Ultrasound 85.01.10 other devices identified at the EMT level
	85.02 Demonstrate the use of the following patient monitoring technologies. 85.02.01 Continuous ECG monitoring 85.02.02 12-Lead ECG 85.02.03 Capnography (wave form) 85.02.04 Capnometry (colorimetric) 85.02.05 other devices identified at the EMT level
86.0	**Reassessment:** Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	86.01 Review the EMT standards and benchmarks for the reassessment section and demonstrate a complex depth and comprehensive breadth of how and when to perform a reassessment for all patient situations.
87.0	**Medical Overview:** Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints. –The student will be able to:

	87.01 Review the EMT standards and benchmarks for medical overview and demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment and management of medical complaints.
88.0	**Neurology:** Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups. –The student will be able to:
	88.01 Identify the risk factors associated with nervous system dysfunction.
	88.02 Review the anatomy and physiology of the organs and structures related to nervous system.
	88.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: : 88.03.01 coma 88.03.02 altered mental status 88.03.03 seizures 88.03.04 syncope 88.03.05 transient ischemic attack 88.03.06 stroke and intracranial hemorrhage 88.03.07 degenerative neurologic diseases 88.03.08 chronic alchoholism 88.03.09 back pain and non-traumatic spinal disorders
	88.04 Describe and differentiate the major types of seizures.
	88.05 Describe the types of stroke and intracranial hemorrhage.
	88.06 Describe the significance of the prevalence of neurologic disorders in the United States.
	88.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to neurologic disorders.
89.0	**Abdominal and Gastrointestinal Disorders:** Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	89.01 Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
	89.02 Discuss the pathophysiology of inflammation and its relationship to acute abdominal pain.
	89.03 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	89.04 Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.

	89.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders: 89.05.01 Both Upper and lower gastrointestinal bleeding 89.05.02 Acute gastroenteritis. 89.05.03 Colitis. 89.05.04 Diverticulitis. 89.05.05 Appendicitis. 89.05.06 Peptic ulcer disease. 89.05.07 Bowel obstruction. 89.05.08 Crohn's disease. 89.05.09 Pancreatitis. 89.05.10 Esophageal varices. 89.05.11 Hemorrhoids. 89.05.12 Cholecystitis. 89.05.13 Acute hepatitis.
	89.06 Identify patients with risk factors for gastrointestinal emergencies.
	89.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to gastrointestinal disorders.
	89.08 Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
90.0	**Immunology:** Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups. –The student will be able to:
	90.01 Define: 90.01.01 Allergic reaction. 90.01.02 Anaphylaxis 90.01.03 Antigens 90.01.04 Antibodies
	90.02 Review the anatomy and physiology of the organs and structures related to anaphylaxis.
	90.03 Describe the prevention of anaphylaxis and appropriate patient education.
	90.04 Discuss the pathophysiology of allergy and anaphylaxis.
	90.05 Describe the common methods of entry of substances into the body.
	90.06 List common antigens most frequently associated with anaphylaxis.
	90.07 Describe physical manifestations in anaphylaxis.
	90.08 Differentiate manifestations of an allergic reaction from anaphylaxis.
	90.09 Recognize the signs and symptoms related to anaphylaxis.

	90.10	Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis.
	90.11	Develop a treatment plan based on field impression in the patient with allergic reaction and anaphylaxis.
91.0	**Infectious Diseases:** Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups. –The student will be able to:	
	91.01	Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
	91.02	List and describe the steps of an infectious process.
	91.03	List and describe infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
	91.04	Describe characteristics of the immune system, including the categories of white blood cells, the reticuloendothelial system (RES), and the complement system.
	91.05	Describe and discuss the rationale for the various types of PPE.
	91.06	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
	91.07	Discuss disinfection of patient care equipment, and areas in which care of the patient occurred.
	91.08	Consistently demonstrate the proper use of body substance isolation.
	91.09	Perform an assessment of a patient with an infectious/communicable disease.
	91.10	Effectively and safely manage a patient with an infectious/communicable disease, including airway and ventilation care, support of circulation, pharmacological intervention, transport considerations, psychological support/communication strategies, and other considerations as mandated by local protocol.
	91.11	Explain public health principles related to infectious disease.
	91.12	Describe the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
	91.13	Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
	91.14	Explain the principles and practices of infection control in prehospital care.
	91.15	Describes the EMS professional’s responsibilities as well as their rights under the Ryan White Act.

	91.16 Discuss the causative agent, body systems affected and potential secondary complications, routes of transmission, susceptibility and resistance, signs and symptoms and demonstrate the patient management and protective/control measures, and immunization for the following infectious diseases: 91.16.01 HIV 91.16.02 Hepatitis A, B, C, D, E 91.16.03 Tuberculosis 91.16.04 Meningococcal meningitis (spinal meningitis) 91.16.05 Pneumonia 91.16.06 Tetanus 91.16.07 Varicella (chickenpox) 91.16.08 Mumps 91.16.09 Rubella (German measles) 91.16.10 Measles (rubeola, hard measles) 91.16.11 Influenza 91.16.12 Mononucleosis 91.16.13 gastroenteritis
	91.17 Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease, to include bronchiolitis, bronchitis, laryngitis, croup, epiglottitis, and the common cold.
	91.18 Describe the pathophysiology of infectious diseases of immediate concern to EMS providers.
	91.19 Describe the EMS provider's role in patient education and preventing disease transmission.
	91.20 Explain the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).
92.0	**Endocrine Disorders:** Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups. – The student will be able to:
	92.01 Identify the risk factors related to disorders of the endocrine system.
	92.02 Review the anatomy and physiology of organs and structures related to endocrinologic diseases.
	92.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following endocrinologic emergencies: 92.03.01 30.03.01 hypoglycemia (responsive and unresponsive) 92.03.02 30.03.02 hyperglycemia 92.03.03 30.03.03 diabetic ketoacidosis 92.03.04 30.03.04 Cushing's syndrome 92.03.05 30.03.05 Adrenal insufficiency 92.03.06 30.03.06 Pituitary disorders 92.03.07 30.03.07 Thyroid disorders
	92.04 Describe the mechanism of ketone body formation and its relationship to ketoacidosis.
	92.05 Describe the compensatory mechanisms utilized by the body to promote homeostasis relative to hypoglycemia.

	92.06 Develop a patient management plan based on field impression in the patient with an endocrinologic emergency.
	92.07 Demonstrate how to administer glucagon to a hypoglycemic patient.
93.0	**Psychiatric:** Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups. –The student will be able to:
	93.01 Define behavior and distinguish between normal and abnormal behavior.
	93.02 Discuss the prevalence of behavior and psychiatric disorders.
	93.03 Discuss the factors that may alter the behavior or emotional status of an ill or injured individual.
	93.04 Describe the medical legal considerations for management of emotionally disturbed patients.
	93.05 Discuss the pathophysiology of behavioral and psychiatric disorders.
	93.06 Define the following terms: 93.06.01 Affect 93.06.02 Anger 93.06.03 Anxiety 93.06.04 Confusion 93.06.05 Depression 93.06.06 Fear 93.06.07 Mental status 93.06.08 Open-ended questions 93.06.09 Posture
	93.07 Describe the verbal techniques useful in managing the emotionally disturbed patient.
	93.08 Describe the circumstances when relatives, bystanders and others should be removed from the scene.
	93.09 Describe the techniques that facilitate the systematic gathering of information from the disturbed patient.
	93.10 Identify techniques for physical assessment in a patient with behavioral problems.
	93.11 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient.
	93.12 List the risk factors (including behaviors) for suicide.
	93.13 Differentiate between the various behavioral and psychiatric disorders based on the assessment and history.
	93.14 Develop a patient management plan based on the field impressions.
	93.15 Demonstrate safe techniques for managing and restraining a violent patient.

94.0	**Cardiovascular:** Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups. –The student will be able to:
94.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.
94.02	Identify the risk factors of coronary artery disease.
94.03	Review the anatomy and physiology of the cardiovascular system.
94.04	Describe the blood flow pathway through the vascular system including the arteries, veins and associated structures.
94.05	Explain how the heart functions as a pump; including the concepts of cardiac output, stroke volume, heart rate, and ejection fraction.
94.06	Discuss the physiology of the cardiac cycle and the fluid dynamics associated with the cardiovascular system including Starling's Law, systole and diastole.
94.07	Identify the four properties that aid in the function of the heart including excitability, conductivity, automaticity, and contractility.
94.08	Define the terms: 94.08.01 depolarization 94.08.02 repolarization 94.08.03 pulse deficit 94.08.04 pulsus paradoxus 94.08.05 pulsus alternans 94.08.06 hypertensive emergency 94.08.07 cardiac tamponade 94.08.08 cardiogenic shock 94.08.09 cardiac arrest
94.09	List the ions involved in myocardial action potential and their primary and their primary function in this process.
94.10	Describe the events involved in the steps from excitation to contraction of the cardiac muscle fibers.
94.11	Identify the structure and course of all divisions and subdivisions of the cardiac conduction system.
94.12	Identify and describe how the heart's pacemaking control, rate, and rhythm are determined.
94.13	Compare and contrast the coronary artery distribution to the major portions of the cardiac conduction systems.
94.14	Identify the structures of the autonomic nervous system (ANS).
94.15	Identify the effect of the ANS on heart rate, rhythm and contractility.
94.16	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
94.17	Identify and describe the components of the focused history as it relates to the patient with cardiovascular compromise.

94.18	Explain the assessment and management of the following cardiovascular conditions:
94.19	Identify the normal characteristics of the point of maximal impulse (PMI).
94.20	Identify and define the normal and abnormal heart sounds.
94.21	Relate heart sounds to hemodynamic events in the cardiac cycle.
94.22	Explain the purpose of ECG monitoring and how ECG wave forms are produced.
94.23	Identify the components of the ECG rhythm strip and list any limitations.
94.24	Identify how heart rates, durations, and amplitudes may be determined from ECG tracings.
94.25	Describe the placement of leads and electrodes in 3 lead and 12 lead ECG monitoring..
94.26	Differentiate among the primary mechanisms responsible for producing cardiac dysrhythmias.
94.27	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
94.28	Describe the dysrhythmias originating or sustained in the in the following areas: 94.28.01 sinus node 94.28.02 the AV junction 94.28.03 bundle branch system 94.28.04 atria 94.28.05 ventricles
94.29	Describe the process and the pitfalls of differentiation of wideQRS complex tachycardias.
94.30	Describe the conditions of pulseless electrical activity.
94.31	Describe the phenomena of reentry, aberration and accessory pathways.
94.32	Identify the ECG changes characteristically produced by electrolyte imbalances and specify the clinical implications.
94.33	Identify patient situations where ECG rhythm analysis is indicated.
94.34	Recognize the changes and any limitations on the ECG that may reflect evidence of myocardial ischemia and injury.
94.35	Compare manual defibrillation from cardioversion and synchronized cardioversion.
94.36	Describe the components of a transcutaneous pacer, its application and setting adjustments as well as the clinical indications and techniques for use.
94.37	Based on field impressions, identify the need for rapid intervention for the patient in cardiovascular compromise.

94.38	Discuss the pathophysiology and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan: 94.38.01 Angina 94.38.02 Myocardial infarction STEMI/Non-STEMI 94.38.03 Congestive heart failure 94.38.04 Cardiac tamponade 94.38.05 Cardiogenic shock 94.38.06 Hypertension and acute hypertensive states 94.38.07 Cardiac arrest 94.38.08 Vascular disorders 94.38.09 Hypertrophic cardiomyopathies 94.38.10 Infectious diseases of the heart
94.39	Identify the drugs of choice, the rationale for use, clinical precautions and disadvantages and/or complications for the following conditions: 94.39.01 Angina 94.39.02 Myocardial infarction STEMI/Non-STEMI 94.39.03 Congestive heart failure 94.39.04 Cardiac tamponade 94.39.05 Cardiogenic shock 94.39.06 Hypertension and acute hypertensive states 94.39.07 Cardiac arrest 94.39.08 Vascular disorders 94.39.09 Hypertrophic cardiomyopathies 94.39.10 Infectious diseases of the heart
94.40	Describe the most commonly used pharmacological agents in the management of congestive heart failure in terms of therapeutic effect, dosages, and routes of administration, side effects and toxic effects.
94.41	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
94.42	Compare fibrinolysis from percutaneous intervention as reperfusion techniques used in patients with AMI or suspected AMI and describe the "window of opportunity" as it pertains to reperfusion of a Myocardial infarction.
94.43	List the characteristics of a patient eligible for thrombolytic therapy.
94.44	Define the term "acute pulmonary edema" and describe its relationship to left ventricular failure.
94.45	Define preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
94.46	Differentiate between early and late signs and symptoms of left ventricular failure and those of right ventricular failure.
94.47	Explain the clinical significance of paroxysmal nocturnal dyspnea.
94.48	Explain clinical significance of edema of the extremities and sacrum.

94.49	Describe how to determine if pulses paradoxus, pulses alternans, or electrical alternans is present.
94.50	Identify non-cardiac causes of cardiac arrest.
94.51	Identify the clinical significance of claudication and presence of arterial bruits in a patient with peripheral vascular disorders.
94.52	Describe the clinical significance of unequal arterial blood pressure readings in the arms.
94.53	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
94.54	Explain how to confirm asystole using 3 lead ECG.
94.55	Identify circumstances and situations where resuscitation efforts would not be initiated.
94.56	Identify and list inclusion and exclusion criteria for termination of resuscitative efforts.
94.57	Identify communication and documentation protocols with medical direction and law enforcement used for termination of resuscitation efforts.
94.58	Apply knowledge of the epidemiology of cardiovascular disease to develop prevention strategies.
94.59	Defend the urgency in rapid determination of and rapid intervention of patients in cardiac arrest.
94.60	Defend the possibility of termination of resuscitative efforts in the out-of-hospital setting.
94.61	Demonstrate how to set and adjust the ECG monitor settings to varying patient situations.
94.62	Demonstrate how to record a 3, 4, 10 and 12 lead ECG.
94.63	Given the model of a patient with signs and symptoms of heart failure, position the patient to afford them comfort or relief.
94.64	Demonstrate how to determine if pulsus paradoxus, pulsus alternans, or electrical alternans is present.
94.65	Set up and apply a transcutaneous pacing system.
94.66	List the possible complications of pacing.
94.67	Demonstrate how to perform post-resuscitative care.
94.68	Demonstrate satisfactory performance of psychomotor skills of basic and advanced life support techniques according to the current American Heart Association Guidelines or its equivalent, including: 94.68.01 cardiopulmonary resuscitation 94.68.02 defibrillation 94.68.03 synchronized cardioversion 94.68.04 transcutaneous pacing
95.0	**Toxicology:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups. –The student will be able to:

95.01	Describe the epidemiology, incidence, morbidity and mortality of toxic emergencies.
95.02	Identify the risk factors of toxic emergencies.
95.03	Discuss the role of the Poison Control Center in the United States.
95.04	List the most common poisonings by ingestion.
95.05	Recognize the signs and symptoms related to the most common poisonings by ingestion.
95.06	Discuss the factors affecting the decision to induce vomiting in a patient with ingested poison.
95.07	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by ingestion.
95.08	Define poisoning by inhalation.
95.09	List the most common poisonings by inhalation.
95.10	Describe the pathophysiology of poisoning by inhalation.
95.11	Recognize the signs and symptoms related to the most common poisonings by inhalation.
95.12	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by inhalation.
95.13	Define poisoning by injection.
95.14	List the most common poisonings by injection.
95.15	Recognize the signs and symptoms related to the most common poisonings by injection.
95.16	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by injection.
95.17	Define poisoning by surface absorption.
95.18	List the most common poisonings by surface absorption.
95.19	Describe the pathophysiology of poisoning by surface absorption.
95.20	Recognize the signs and symptoms related to the most common poisonings by surface absorption.
95.21	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by surface absorption.
95.22	Define poisoning by overdose.
95.23	List the most common poisonings by overdose.

95.24	Describe the pathophysiology of poisoning by overdose.
95.25	Recognize the signs and symptoms related to the most common poisonings by overdose.
95.26	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by overdose.
95.27	Define drug abuse.
95.28	Define the following terms: 95.28.01 Substance or drug abuse 95.28.02 Substance or drug dependence 95.28.03 Tolerance 95.28.04 Withdrawal 95.28.05 Addiction
95.29	List the most commonly abused drugs (both by chemical name and street names).
95.30	Recognize the signs and symptoms related to the most commonly abused drugs.
95.31	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients using the most commonly abused drugs.
95.32	List the clinical uses, street names, pharmacology, assessment finding and management for patient who have taken the following drugs or been exposed to the following substances: Cocaine, marijuana and cannabis compounds, Amphetamines and amphetamine-like drugs, Barbiturates, Sedative-hypnotics, Cyanide, Narcotics/opiates, cardiac medications, Caustics, common household substances, Drugs abused for sexual purposes/sexual gratification, Carbon monoxide, Alcohols, Hydrocarbons, Psychiatric medications, Newer anti-depressants and serotonin syndromes, Lithium, MAO inhibitors, Non-prescription pain medications, Nonsteroidal anti-inflammatory agents, Salicylates, Acetaminophen, Theophylline, Metals, Plants and mushrooms

	95.33 Discuss the specific differences and considerations in the pathophysiology, assessment findings and treatment associated with a patient suffering from the following toxins and toxidromes: 95.33.01 Carbon Monoxide. 95.33.02 Cyanide. 95.33.03 Cardiac Medications 95.33.04 Organophosphates. 95.33.05 Caustic Substances. 95.33.06 Hydrocarbons. 95.33.07 Hydrofluoric Acid 95.33.08 Prescription Medications (pain relievers, psychiatric medications). 95.33.09 Alcohol, Alcoholism and withdrawal. 95.33.10 Tricyclic Antidepressants 95.33.11 Monoamine Oxidase Inhibitors 95.33.12 Newer Antidepressants and Serotonin Syndrome 95.33.13 Lithium 95.33.14 Salicylates 95.33.15 Acetaminophens. 95.33.16 NSAIDs 95.33.17 Theophylline 95.33.18 Metals (iron, lead, mercury). 95.33.19 Contaminated Food. 95.33.20 Poisonous plants and Mushrooms 95.33.21 Animal bites, Insect Stings 95.33.22 Commonly Abused Drugs
	95.34 Discuss common causative agents, pharmacology, assessment findings and management for a patient with food poisoning.
	95.35 Discuss common offending organisms, pharmacology, assessment findings and management for a patient with a bite or sting.
	95.36 Develop a patient management plan based on field impression in the patient exposed to a toxic substance.
	95.37 Describe the epidemiology of toxicologic disorders and substance abuse.
	95.38 Explain the proper procedures for transporting a patient exposed to a toxic chemical to a receiving facility.
	95.39 Demonstrate the steps for assessment and management of the suspected poisoning or overdose patient.
96.0	**Respiratory:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	96.01 Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States
	96.02 Define hypoventilation and hyperventilation, and outline the conditions with which they are often associated
	96.03 Review the anatomy, physiology and functions of the respiratory system.

96.04	Explain how gas exchange occurs at the interface of the alveoli and the pulmonary capillary bed.
96.05	Describe the physiology of respiration including nervous, cardiovascular, muscular, chemical, renal respiratory control mechanisms and ventilation-perfusion mismatch.
96.06	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.
96.07	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.
96.08	Differentiate between normal and abnormal breath sounds and its physiologic significance.
96.09	Discuss abnormal assessment findings associated with pulmonary diseases and conditions.
96.10	Explain how to access the adequacy of the circulation of a patient with dyspnea.
96.11	Discuss the way transport decisions are made for patients with respiratory distress.
96.12	Describe the interventions available for treating patients with respiratory emergencies.
96.13	Describe those devices used to monitor patients with respiratory complaints.
96.14	Discuss those complications which cause the COPD patient to decompensate.
96.15	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.
96.16	Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following respiratory conditions: 96.16.01 pulmonary infections (upper and lower airway) 96.16.02 atelectasis 96.16.03 anatomic or foreign body obstruction 96.16.04 aspiration 96.16.05 asthma 96.16.06 emphysema 96.16.07 chronic bronchitis 96.16.08 spontaneous pneumothorax 96.16.09 pleural effusion 96.16.10 pulmonary embolism 96.16.11 cancer 96.16.12 toxic inhalations 96.16.13 pulmonary edema 96.16.14 acute respiratory distress syndrome (ARDS) 96.16.15 Pneumonia 96.16.16 Neoplasms of the lung 96.16.17 Hyperventilation syndrome

	96.17	Compare various airway and ventilation techniques used in the management of pulmonary diseases.
	96.18	Review the pharmacological preparations that paramedics use for management of respiratory diseases and conditions.
	96.19	Review the use of equipment used during the physical examination of patients with complaints associated with respiratory diseases and conditions.
	96.20	Describe the variations of respiratory anatomy and the pathophysiology of respiratory disease across the life spans.
97.0	**Hematology:** Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups. –The student will be able to:	
	97.01	Identify the role of heredity in the risk for hematologic disorders.
	97.02	Review the anatomy of the hematopoietic system.
	97.03	Describe volume and volume-control related to the hematopoietic system.
	97.04	Describe normal red blood cell (RBC) production, function and destruction.
	97.05	Explain the significance of the hematocrit with respect to red cell size and number.
	97.06	Explain the correlation of the RBC count, hematocrit and hemoglobin values.
	97.07	Define anemia.
	97.08	Recognize medications used to decrease the risk of thrombosis.
	97.09	Describe normal white blood cell (WBC) production, function and destruction.
	97.10	Identify alterations in immunologic response.
	97.11	List the leukocyte disorders.
	97.12	Describe platelets with respect to normal function, life span and numbers.
	97.13	Describe the components of the hemostatic mechanism.
	97.14	Describe the function of coagulation factors, platelets and blood vessels necessary for normal coagulation.
	97.15	Identify blood groups.
	97.16	Identify the components of physical assessment as they relate to the hematologic system.

	97.17 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: 97.17.01 Anemia 97.17.02 Leukemia 97.17.03 Lymphomas 97.17.04 Polycythemia 97.17.05 Disseminated intravascular coagulopathy 97.17.06 Hemophilia 97.17.07 Sickle cell disease 97.17.08 Multiple myeloma 97.17.09 Leukopenia/neutropenia 97.17.10 Leukocytosis 97.17.11 Thrombocytosis 97.17.12 Thrombocytopenia
	97.18 Integrate pathophysiological principles into the assessment of a patient with hematologic disease.
98.0	**Genitourinary/Renal:** Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups. –The student will be able to:
	98.01 Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
	98.02 Review the anatomy and physiology of the organs and structures related to urogenital diseases.
	98.03 Define referred pain and visceral pain as it relates to urology.
	98.04 Describe the technique for performing a comprehensive physical examination of a patient complaining of abdominal pain.
	98.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients of the following urologic and renal conditions: 98.05.01 Acute renal failure 98.05.02 Chronic renal failure 98.05.03 Complications related to hemodialysis and peritoneal dialysis. 98.05.04 Renal Calculi 98.05.05 Priapism 98.05.06 Testicular torsion 98.05.07 Urinary tract infection
	98.06 Apply the epidemiology to develop prevention strategies for urological emergencies.
	98.07 Integrate pathophysiological principles to the assessment of a patient with abdominal pain.
	98.08 Synthesize assessment findings and patient history information to accurately differentiate between pain of a urogenital emergency and that of other origins.
	98.09 Develop, execute, and evaluate a treatment plan based on the field impression made in the assessment.

	98.10 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to urologic and renal disorders.
99.0	**Gynecology:** Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups. –The student will be able to:
	99.01 Review the anatomic structures and physiology of the female reproductive system.
	99.02 Identify the normal events of the menstrual and ovarian cycle including: 99.02.01 Proliferative phase 99.02.02 Secretory phase 99.02.03 Menstrual phase 99.02.04 Menopause
	99.03 Explain how to recognize a gynecological emergency.
	99.04 Discuss the pathophysiology and demonstrate the assessment, and management of patients with specific gynecological emergencies: 99.04.01 Infection (including Pelvic inflammatory disease, Bartholin's abscess, and vaginitis/ vulvovaginitis) 99.04.02 Ovarian cyst and ruptured ovarian cyst 99.04.03 Ovarian torsion 99.04.04 Endometriosis 99.04.05 Dysfunctional uterine bleeding 99.04.06 Prolapsed uterus 99.04.07 Vaginal foreign body 99.04.08 Vaginal Hemorrhage 99.04.09 Ectopic Pregnancy
	99.05 Describe the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	99.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
	99.07 Demonstrate how to assess a patient with a gynecological complaint.
	99.08 Demonstrate how to provide care for a patient with: 99.08.01 Excessive vaginal bleeding 99.08.02 Abdominal pain 99.08.03 Sexual assault.
100.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	100.01 Discuss the epidemiology of non-traumatic musculoskeletal disorders.

	100.02 Discuss various non-traumatic musculoskeletal disorders such as: 100.02.01 osteomyelitis and tumors 100.02.02 disc disorders, lower back pain (cauda equine syndrome, sprain, strain.) 100.02.03 joint abnormalities 100.02.04 muscle abnormalities 100.02.05 overuse syndrome 100.02.06 soft tissue infections
101.0	**Diseases of the Eyes, Ears, Nose , and Throat :** Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups. –The student will be able to:
	101.01 Relate the anatomy and physiology of the eyes, ears, nose, and throat to the pathophysiology and assessment of patients with diseases of the eyes, ears, nose, and throat.
	101.02 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various eye diseases/injuries including: 101.02.01 Burns of eye and adnexa 101.02.02 Conjunctivitis 101.02.03 Corneal abrasions 101.02.04 Foreign body 101.02.05 Inflammation of the eyelid 101.02.06 Glaucoma 101.02.07 Hyphema 101.02.08 Iritis 101.02.09 Papilledema 101.02.10 Retinal detachment and defect 101.02.11 Cellulitis of orbit
	101.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various ear diseases/injuries including: 101.03.01 Foreign body 101.03.02 Impacted cerumen 101.03.03 Labyrinthitis 101.03.04 Meniere's disease 101.03.05 Otitis external and media 101.03.06 Perforated tympanic membrane
	101.04 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various nose diseases/injuries including: 101.04.01 Epistaxis 101.04.02 Foreign body intrusion 101.04.03 Rhinitis 101.04.04 Sinusitis

101.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with oropharynx/throat diseases/injuries including:

- 101.05.01 Dentalgia and dental abscess
- 101.05.02 Diseases of oral soft tissue/ Ludwig's angina
- 101.05.03 Foreign body intrusion
- 101.05.04 Epiglottitis
- 101.05.05 Laryngitis
- 101.05.06 Tracheitis
- 101.05.07 Oral candidiasis
- 101.05.08 Peritonsillar abscess
- 101.05.09 Pharyngitis/tonsillitis
- 101.05.10 Temporomandibular joint disorders

102.0 **Shock and Resuscitation:** Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure. –The student will be able to:

102.01 Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.

102.02 Review the anatomy and physiology of the cardiovascular and respiratory systems.

102.03 Discuss the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.

102.04 Discuss and demonstrate the assessment and management of shock.

102.05 Review and demonstrate the management of external hemorrhage.

102.06 Differentiate between the administration rate and amount of IV fluid in a patient with controlled versus uncontrolled hemorrhage.

102.07 Relate internal hemorrhage to the assessment findings of compensated and decompensated hemorrhagic shock.

102.08 Review the following for the cardiac arrest victim:

- 102.08.01 Epidemiology
- 102.08.02 Pathophysiology
- 102.08.03 Physiology of blood flow during external chest compressions
- 102.08.04 Resuscitation success/research

102.09 Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.

102.10	Discuss causes, pathophysiology and management of special arrest and peri-arrest conditions: 102.10.01 Electrolyte disorders 102.10.02 Toxic exposures 102.10.03 Drowning 102.10.04 Hypothermia 102.10.05 Near-Fatal Asthma 102.10.06 Anaphylaxis 102.10.07 Trauma 102.10.08 Pregnancy 102.10.09 Electrical Shock and lightning strikes
102.11	Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
102.12	Discuss and demonstrate the assessment and management of internal hemorrhage.
102.13	Discuss the stages and classifications of hemorrhage
102.14	Discuss the pathophysiology and demonstrate the assessment and management of the different types of shock
102.15	Describe the effects of decreased perfusion at the capillary level.
102.16	Relate pulse pressure changes to perfusion status.
102.17	Relate orthostatic vital sign changes to perfusion status.
102.18	Define and differentiate between compensated and decompensated shock for all types of shock.
102.19	Discuss the complications of shock
102.20	Discuss and differentiate the physiological manifestations of shock across the age continuum.
102.21	Differentiate between the normotensive, hypotensive, or profoundly hypotensive patient.
102.22	Differentiate between the administration of fluid in the normotensive, hypotensive, or profoundly hypotensive patient.
102.23	Develop, execute and evaluate a treatment plan based on the field impression for the hemorrhage or shock patient.
102.24	Discuss the destination decision for patients in varying types of shock.
102.25	Demonstrate how to manage a patient suffering from an abnormal heart rate or rhythm.
103.0	**Trauma Overview:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
103.01	Discuss the incidence, morbidity, and mortality of blast injuries.
103.02	Predict blast injuries based on mechanism of injury, including primary, secondary and tertiary.

	103.03 Discuss the effects of an explosion within an enclosed space on a patient.
	103.04 Defend the components of a comprehensive trauma system and the levels of trauma centers.
	103.05 Describe the criteria for transport to a trauma center.
	103.06 Explain the rational for utilizing air medic al transport in the trauma patient.
	103.07 Review energy and force as they relate to trauma.
	103.08 Explain laws of motion and energy and apply the kinetic energy equation.
	103.09 Describe the pathophysiology of the head, spine, thorax, and abdomen that result from the above forces.
	103.10 List suspected injuries from the different causes of trauma: 103.10.01 Motor vehicles (restrained and un-restrained) 103.10.02 Frontal/head on 103.10.03 Lateral or side impacts 103.10.04 Rear impacts 103.10.05 Rotational impacts 103.10.06 Rollovers 103.10.07 Motorcycles 103.10.08 Pedestrian (include the differences for pediatric patient) 103.10.09 Falls from heights 103.10.10 Penetrating 103.10.11 Blasts
	103.11 Discuss and demonstrate the State of Florida's trauma scorecard methodologies as required by Florida Administrative Code and Florida Statute
	103.12 Explain the National Trauma Triage Protocol of Injured Patients
104.0	**Bleeding:** Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups. –The student will be able to:
	104.01 Discuss the compensatory mechanism in hemorrhagic shock.
	104.02 Discuss the administration of medications to assist in the maintenance of homeostasis.
	104.03 Discuss the maintenance of tissue oxygenation in a bleeding patient.
	104.04 Defend and differentiate the type and use of IV fluids for fluid resuscitation in hemorrhagic shock.
	104.05 Demonstrate the different methods/modalities of controlling bleeding.
105.0	**Chest Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups. –The student will be able to:

105.01 Review the anatomy and physiology of the organs and structures related to thoracic injuries.

105.02 Review the pathophysiology and Mechanism of Injury (MOI) of the following injuries, including:

- 105.02.01 Myocardial injuries
  - 105.02.01.1 pericardial tamponade
  - 105.02.01.2 myocardial contusion
  - 105.02.01.3 myocardial rupture
- 105.02.02 Vascular injury
  - 105.02.02.1.1 Aortic Dissection
  - 105.02.02.1.2 Pulmonary contusion
- 105.02.03 Hemothorax
- 105.02.04 Pneumothorax
- 105.02.05 Hemopneumothorax
- 105.02.06 Cardiac Tamponade
- 105.02.07 Commotio Cordis
- 105.02.08 Tracheobronchial disruption
- 105.02.09 Diaphragmatic rupture and injury
- 105.02.10 Tramatic asphyxia
- 105.02.11 Rib fracture
- 105.02.12 Flail segment
- 105.02.13 Sternal fracture

105.03 Discuss and demonstrate the assessment and management of the patient for each the following:

- 105.03.01 thoracic injuries.
- 105.03.02 chest wall injuries.
- 105.03.03 lung injuries.
- 105.03.04 myocardial injuries.
- 105.03.05 vascular injuries.
- 105.03.06 diaphragmatic injuries.
- 105.03.07 tracheo-bronchial injuries
- 105.03.08 traumatic asphyxia.

105.04 Identify the need for rapid intervention and transport of the patient for each of the following:

- 105.04.01 thoracic injuries.
- 105.04.02 chest wall injuries.
- 105.04.03 lung injuries.
- 105.04.04 myocardial injuries.
- 105.04.05 vascular injuries.
- 105.04.06 diaphragmatic injuries.
- 105.04.07 esophageal injuries
- 105.04.08 tracheo-bronchial injuries
- 105.04.09 traumatic asphyxia.

105.05 Assist with the insertion of a chest tube and when in place monitor and manage chest tube patency.

	105.06 Discuss and demonstrate the assessment and management of
	105.07 Integrate the pathophysiological principles to the assessment of a patient with a thoracic injury.
	105.08 Develop a patient management plan based on the field impression.
	105.09 Recognize the need for the use of a thorough assessment to determine a differential diagnosis and treatment plan for thoracic trauma.
	105.10 Demonstrate a clinical assessment for a patient with suspected thoracic trauma.
	105.11 Demonstrate the following techniques of management for thoracic injuries: Needle decompression, Fracture stabilization, Elective intubation, ECG monitoring , Oxygenation and ventilation
106.0	**Abdominal and Genitourinary Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	106.01 Review the anatomy and physiology of organs and structures related to abdominal injuries.
	106.02 Discuss the abdominal vascular structures
	106.03 Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
	106.04 Discuss and explain the pathophysiology for: 106.04.01 Pelvic fractures. 106.04.02 Solid organ injuries 106.04.03 Hollow organ injuries 106.04.04 Abdominal vascular injuries 106.04.05 Retroperitoneal space (kidneys) 106.04.06 Genitourinary system
	106.05 Describe and demonstrate the assessment and management for: 106.05.01 Pelvic fractures. 106.05.02 Solid organ injuries 106.05.03 Hollow organ injuries 106.05.04 Abdominal vascular injuries 106.05.05 Retroperitoneal space (kidneys) 106.05.06 Genitourinary system
	106.06 Develop a patient management plan for a patient with abdominal injuries, based upon field impression.
	106.07 Describe the epidemiology, including the morbidity/mortality and prevention strategies for abdominal vascular injuries.
	106.08 Integrate the pathophysiological principles to the assessment of a patient with abdominal injuries
	106.09 Develop and demonstrate the management of a patient with an impaled object, evisceration and shock.

	106.10 Discuss the variations in symptoms, signs and treatment of patients across the ages
	106.11 Discuss the emotional treatment associated with abdominal and genitourinary injuries.
107.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	107.01 Review the anatomy and physiology of the musculoskeletal system, include the healing process.
	107.02 Discuss types of musculoskeletal injuries: 107.02.01 fracture (open and closed – epiphyseal, greenstick, and torus), 107.02.02 dislocation/fracture, 107.02.03 sprain 107.02.04 strain
	107.03 Discuss the pathophysiology and potential complications of orthopedic injuries.
	107.04 Discuss and demonstrate the patient assessment techniques and findings for orthopedic injuries.
	107.05 Explain the 6 “P” orthopedic injury assessment
	107.06 Discuss the general guidelines for management of orthopedic injuries: 107.06.01 Heat therapy 107.06.02 Cold therapy 107.06.03 Splinting 107.06.04 Medication administration (analgesics and anxiolytics)
	107.07 Discuss the pathophysiology of open and closed fractures.
	107.08 Discuss and demonstrate the assessment and management of specific orthopedic injuries: 107.08.01 Shoulder girdle 107.08.02 Humeral fractures 107.08.03 Elbow 107.08.04 Forearm 107.08.05 Wrist and Hand 107.08.06 Pelvis 107.08.07 Hip 107.08.08 Femoral shaft 107.08.09 Knee 107.08.10 Tibia and Fibula 107.08.11 Ankle 107.08.12 Calcaneus

	107.09 Discuss the pathophysiology and management of dislocations: 107.09.01 Shoulder girdle 107.09.02 Elbow 107.09.03 Wrist and hand 107.09.04 Hand 107.09.05 Hip 107.09.06 Knee
	107.10 Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment.
	107.11 Explain the importance of manipulating a knee dislocation/fracture with an absent distal pulse.
	107.12 Define luxation and subluxation
	107.13 Discuss and demonstrate the assessment and management of sprains and strains
	107.14 Review the pathophysiology and mechanism of injury for compartment and crush syndrome
	107.15 Discuss and demonstrate the assessment and management of compartment and crush syndrome: 107.15.01 Destination decision 107.15.02 Rhabodomylysis
	107.16 Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder and Achilles.
	107.17 Develop a patient management plan for the musculoskeletal injury based on the field impression.
	107.18 Recognize the use of pain management in the treatment of musculoskeletal injuries.
108.0	**Soft Tissue Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
	108.01 Review anatomy and physiology and identify the major functions of the integumentary system.
	108.02 Discuss the pathophysiology of soft tissue injuries and the healing process including: 108.02.01 Inflammation 108.02.02 Epithelialization 108.02.03 Neurovascularization 108.02.04 Collagen Synthesis 108.02.05 Alterations in would healing 108.02.06 Abnormal scar formation
	108.03 Differentiate between the following types of closed soft tissue injuries: contusions, hematoma and crush injuries.
	108.04 Review the assessment findings and management associated with closed soft tissue injuries.
	108.05 Differentiate between the following types of open soft tissue injuries: abrasions, lacerations, major arterial lacerations, avulsions, impaled objects, amputations, incisions, crush injuries, blast injuries, and penetrations/punctures.

108.06	Review the pathophysiology of open wounds.
108.07	Review between the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: direct pressure, pressure dressing, and tourniquet application.
108.08	Integrate pathophysiological principles to the assessment of a patient with a soft tissue injury and synthesize and demonstrate a treatment plan
108.09	Formulate treatment priorities for patients with soft tissue injuries in conjunction with airway/face/neck trauma, thoracic trauma (open/closed), and abdominal trauma.
108.10	Defend the rationale explaining why immediate life-threats must take priority over wound closure.
108.11	Demonstrate the proper use of any Morgantype lens for irrigation of the eye.
108.12	Describe the epidemiology, including incidence, mortality/ morbidity, risk factors, and prevention strategies for the patient with a burn injury.
108.13	Describe the pathophysiologic complications and systemic complications of a burn injury.
108.14	Review and describe types of burn injuries, including a thermal burn, an inhalation burn, a chemical burn, an electrical burn, and a radiation exposure.
108.15	Review and describe the depth classifications of burn injuries, including a superficial burn, a partial-thickness burn, a full-thickness burn, and other depth classifications described by local protocol.
108.16	Demonstrate the methods for determining body surface area percentage of a burn injury including the "rules of nines," the "rules of palms," and other methods described by local protocol.
108.17	Review and describe the severity of a burn including a minor burn, a moderate burn, a severe burn, and other severity classifications described by local protocol.
108.18	Describe special considerations for a pediatric patient with a burn injury.
108.19	Discuss conditions associated with burn injuries, including: 108.19.01 Trauma 108.19.02 blast injuries 108.19.03 airway compromise 108.19.04 respiratory compromise 108.19.05 child abuse
108.20	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
108.21	Describe the pathophysiology of a thermal burn injury.
108.22	Describe the pathophysiology and assessment findings of a burn from the following causes: 108.22.01 Inhalation 108.22.02 Chemicals 108.22.03 electricity

	108.23 Describe and demonstrate the assessment and management of a thermal, inhalation, electrical and chemical burn injury and radiation exposure, including: 108.23.01 airway and ventilation 108.23.02 circulation 108.23.03 pharmacological, non-pharmacological 108.23.04 transport considerations 108.23.05 psychological support/ communication strategies
	108.24 Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.
	108.25 Describe the pathophysiology of a radiation exposure, including the types and characteristics of ionizing radiation.
	108.26 Identify and describe the severity of a radiation exposure.
	108.27 Develop, execute and evaluate a management plan based on the field impression for the patient with thermal, inhalation, chemical, electrical, and radiation burn injuries.
109.0	**Head, Face, Neck, and Spine:** Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups. –The student will be able to:
	109.01 Differentiate between facial injuries based on the assessment and history.
	109.02 Relate assessment findings associated with head, facial and neck injuries to pathophysiology.
	109.03 Develop a patient management plan based on patient assessment and a field impression for injuries to the following areas: 109.03.01 Eye(s) 109.03.02 Nose 109.03.03 Throat/neck 109.03.04 Face 109.03.05 Mouth 109.03.06 Ear(s)
	109.04 Formulate a field impression for a patient with an injury for the following areas based on the assessment findings: 109.04.01 Eye(s) 109.04.02 Nose 109.04.03 Throat/neck 109.04.04 Face 109.04.05 Mouth 109.04.06 Ear(s)
	109.05 Distinguish between head injury and brain injury.
	109.06 Define and explain the process involved with each of the levels of increasing ICP.
	109.07 Identify the need for rapid intervention and transport of the patient with a head/brain injury.
	109.08 Describe and demonstrate the assessment andgeneral management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.

109.09 Explain the pathophysiology of skull fracture and intracranial hemorrhage, including epidural, subdural, intracerebral, and subarachnoid.
109.10 Develop a management plan for a patient for each of the following conditions: 109.10.01 skull fracture 109.10.02 cerebral contusion 109.10.03 intracranial hemorrhage 109.10.04 epidural, subdural, intracerebral, and subarachnoid
109.11 Differentiate between traumatic and non-traumatic spinal injuries based on the assessment and history.
109.12 Describe the pathophysiology of non-traumatic spinal injury, including but not limited to, low back pain, herniated intervertebral disk and spinal cord tumors.
109.13 Describe and demonstrate the assessment and management of non- traumatic spinal injuries.
109.14 Describe the pathophysiology of traumatic spinal injury related to: 109.14.01 spinal shock 109.14.02 spinal neurogenic shock 109.14.03 quadriplegia/paraplegia, 109.14.04 Incomplete cord injury/cord syndromes, including central cord syndrome, anterior cord syndrome and Brown-Sequard syndrome.
109.15 Discuss and demonstrate the assessment and management of spine trauma including dislocations/subluxations, fractures, and sprains/strains.
109.16 Develop a management plan for a patient with spine trauma including dislocations/subluxations, fractures, and sprains/strains.
109.17 Develop a patient management plan for both a traumatic and a non-traumatic spinal injury based on the field impression.
109.18 Demonstrate a clinical assessment to determine the proper management modality for a patient for both a suspected traumatic spinal injury and a non-traumatic spinal injury.
109.19 Demonstrate spinal motion restriction of the urgent and non-urgent patient with assessment findings of spinal injury from the following presentations: Supine, Prone, Semi-prone, Sitting, Standing
109.19.01 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
109.20 Demonstrate various methods for stabilization and removal of a helmet.
109.21 Discuss and demonstrate the assessment and management of each of the following: 109.21.01 Perforated tympanic membranes. 109.21.02 orbital fracture 109.21.03 mandibular fractures
109.22 Develop a management plan for a patient for each of the following: 109.22.01 Perforated tympanic membranes. 109.22.02 orbital fracture 109.22.03 mandibular fractures

110.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups. –The student will be able to:
	110.01 Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.
	110.02 Discuss pathophysiology of the following nervous system injury including: 110.02.01 Cauda Equine syndrome 110.02.02 Peripheral nerve injuries 110.02.03 Intracerebral hemorrhages 110.02.04 Cranial fractures 110.02.05 Brain tissue injuries 110.02.06 Spinal cord injuries
	110.03 Discuss the mechanism of injury which would result in a nervous system injury.
	110.04 Discuss the specific assessment (s) for nervous system injuries including: 110.04.01 Brown-Sequard syndrome 110.04.02 Cauda Equine syndrome 110.04.03 Anterior cord syndrome 110.04.04 Central cord syndrome 110.04.05 Intracerebral hemorrhage
	110.05 Discuss the pathophysiology of a traumatic brain injury and spinal shock.
	110.06 Develop a management plan for a patient with traumatic brain injury and spinal shock
	110.07 Synthesize and demonstrate the spinal motion restriction technique for the different spinal cord injuries.
	110.08 Discuss the research involving the management of nervous system injuries and patient management.
111.0	**Special Considerations in Trauma:** Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups. –The student will be able to:
	111.01 All trauma objectives should integrate the assessment and management differences associated with the following special populations: 111.01.01 Pregnancy 111.01.02 Pediatric 111.01.03 Geriatric 111.01.04 Cognitively impaired
112.0	**Environmental Emergencies:** Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups. – The student will be able to:
	112.01 Define "environmental emergency."

112.02 Discuss the pathophysiology and MOI of the following: 112.02.01 Drowning and water related incidents 112.02.02 temperature-related illness 112.02.03 bites and envenomation 112.02.04 dysbarism such as high-altitude edema 112.02.05 diving injuries 112.02.06 lightning (electrical) injury 112.02.07 high altitude illness
112.03 Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.
112.04 Describe several methods of temperature monitoring.
112.05 Identify the components of the body's thermoregulatory mechanism.
112.06 Describe the general process of thermal regulation, including substances used and wastes generated.
112.07 Describe the body's compensatory process for overheating.
112.08 Discuss and list the common forms of heat and cold disorders.
112.09 Discuss the pathophysiology of temperature related illness
112.10 Relate symptomatic findings to the commonly used terms: heat cramps, heat exhaustion, and heatstroke.
112.11 Describe the contribution of dehydration to the development of heat disorders.
112.12 Describe the differences between classical and exertional heatstroke.
112.13 Define fever and discuss its pathophysiologic mechanism.
112.14 Discuss the role of fluid therapy in the treatment of temperature related emergencies
112.15 Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has dehydration, heat exhaustion, or heatstroke.
112.16 Identify differences between mild, severe, chronic and acute hypothermia
112.17 Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has either mild or severe hypothermia.
112.18 Define frostbite and superficial frostbite (frostnip).
112.19 Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with superficial or deep frostbite.
112.20 Define submersion

112.21 List signs and symptoms of submersion
112.22 Describe the lack of significance of fresh versus saltwater immersion, as it relates to submersion
112.23 Discuss the incidence of "wet" versus "dry" drownings and the differences in their management.
112.24 Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the submersion patient.
112.25 Define self-contained underwater breathing apparatus (SCUBA).
112.26 Discuss the pathophysiology of diving emergencies including: 112.26.01 decompression illness/sickness 112.26.02 Altitude Illnesses 112.26.03 Pulmonary Over Pressurization Syndrome (POPS) 112.26.04 Arterial Gas Embolism
112.27 Relate the gas laws to the pathology of injury in a submersion emergency
112.28 List signs and symptoms of diving emergencies.
112.29 Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
112.30 Differentiate among the various treatments and interventions for the management of diving accidents.
112.31 Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
112.32 Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a management plan for the patient who has had a diving accident.
112.33 Develop a patient management plan based on the field impression of the patient affected by an environmental emergency.
112.34 Discuss the pathophysiology of bites and envenomation including: 112.34.01 Hymenoptera 112.34.02 Snake bites 112.34.03 Spider Bites 112.34.04 Scorpion stings 112.34.05 Tick Bites
112.35 Discuss and demonstrate the assessment and management of: 112.35.01 Hymenoptera 112.35.02 Snake bites 112.35.03 Spider Bites 112.35.04 Scorpion stings 112.35.05 Tick Bites
112.36 Relate the assessment of bites and envenomation to the immune response and shock

113.0	**Multi-Systems Trauma:** Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries. –The student will be able to:
113.01	Demonstrate the priority of care in the multisystem trauma patient
113.02	Explain which ALS interventions should occur prior to a transport decision and during transport
114.0	**Obstetrics:** Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic. –The student will be able to:
114.01	Review the anatomic structures and physiology of the reproductive system.
114.02	Identify and describe the normal events of pregnancy.
114.03	Describe and demonstrate how to assess an obstetrical patient.
114.04	Identify and describe the stages of labor and the paramedic's role in each stage.
114.05	Differentiate between normal and abnormal delivery.
114.06	Identify and describe complications associated with pregnancy and delivery.
114.07	State indications of an imminent delivery.
114.08	Differentiate the management of a patient with predelivery emergencies from a normal delivery.
114.09	State the steps to assist in the delivery of a neonate including preparation of the mother.
114.10	Describe and demonstrate how to care for the neonate.
114.11	Describe how and when to cut the umbilical cord.
114.12	Discuss the steps in the delivery of the placenta.
114.13	Demonstrate how to prepare the obstetric patient for delivery.
114.14	Demonstrate how to assist in the normal cephalic delivery of the fetus.
114.15	Demonstrate how to deliver the placenta.
114.16	Describe and demonstrate the management of the mother post-delivery.
114.17	Describe and demonstrate the procedures for handling abnormal deliveries.
114.18	Describe and demonstrate the procedures for handling complications of pregnancy including excessive vaginal bleeding, abdominal pain and hypertensive crisis
114.19	Describe and demonstrate the procedures for handling maternal complications of labor.

	114.20 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	114.21 Describe special considerations of a premature baby.
115.0	**Neonatal Care:** Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic. –The student will be able to:
	115.01 Define the term neonate.
	115.02 Identify antepartum factors that can affect childbirth.
	115.03 Identify intrapartum factors that can term the neonate “high risk”.
	115.04 Identify the factors that lead to premature birth and low birth weight neonates.
	115.05 Discuss pulmonary perfusion and asphyxia.
	115.06 Calculate the APGAR score given various neonate situations.
	115.07 Demonstrate appropriate assessment technique for examining a neonate.
	115.08 Determine when ventilatory assistance is appropriate for a neonate.
	115.09 Prepare appropriate ventilation equipment, adjuncts and technique for a neonate.
	115.10 Determine when chest compressions are appropriate for a neonate.
	115.11 Discuss and demonstrate appropriate chest compression techniques for a neonate.
	115.12 Determine when endotracheal intubation is appropriate for a neonate.
	115.13 Discuss and demonstrate appropriate endotracheal intubation techniques for a neonate.
	115.14 Identify complications related to endotracheal intubation for a neonate.
	115.15 Determine when vascular access is indicated for a neonate.
	115.16 Discuss the routes of medication administration for a neonate.
	115.17 Determine when blow-by oxygen delivery is appropriate for a neonate.
	115.18 Demonstrate blow-by oxygen delivery for a neonate.
	115.19 Determine when an orogastric tube should be inserted during positive-pressure ventilation.
	115.20 Demonstrate insertion of an orogastric tube in a neonate.

115.21 Discuss the signs of hypovolemia in a neonate.
115.22 Demonstrate preparation of a neonate resuscitation area.
115.23 Discuss and demonstrate the initial steps in resuscitation of a neonate.
115.24 Demonstrate appropriate assisted ventilations for a neonate.
115.25 Demonstrate appropriate endotracheal intubation technique for a neonate.
115.26 Demonstrate appropriate chest compression and ventilation technique for a neonate.
115.27 Discuss the effects maternal narcotic usage has on the neonate.
115.28 Discuss appropriate transport guidelines for a neonate.
115.29 Determine appropriate receiving facilities for low and high risk neonates.
115.30 Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for meconium aspiration.
115.31 Discuss and demonstrate the assessment and management of meconium aspiration.
115.32 Discuss the pathophysiology of apnea in the neonate.
115.33 Discuss and demonstrate the assessment and management for apnea in the neonate.
115.34 Describe the epidemiology, including the incidence, morbidity/ mortality and risk factors for bradycardia in the neonate.
115.35 Discuss and demonstrate the assessment and management for bradycardia in the neonate.
115.36 Discuss the pathophysiology of premature infants.
115.37 Discuss and demonstrate the assessment and management for premature infants.
115.38 Discuss the pathophysiology of respiratory distress/ cyanosis in the neonate.
115.39 Discuss and demonstrate the assessment and management for respiratory distress/ cyanosis in the neonate.
115.40 Discuss the pathophysiology of seizures in the neonate.
115.41 Discuss and demonstrate the assessment and management for seizures in the neonate.
115.42 Discuss the pathophysiology of fever in the neonate.
115.43 Discuss and demonstrate the assessment and management for fever in the neonate.

	115.44 Discuss the pathophysiology of hypothermia in the neonate.
	115.45 Discuss and demonstrate the assessment and management for hypothermia in the neonate.
	115.46 Discuss the pathophysiology of hypoglycemia in the neonate.
	115.47 Discuss and demonstrate the assessment and management plan for hypoglycemia in the neonate.
	115.48 Discuss the pathophysiology of vomiting in the neonate.
	115.49 Discuss and demonstrate the assessment and management for vomiting in the neonate.
	115.50 Discuss the pathophysiology of common birth injuries in the neonate.
	115.51 Discuss and demonstrate the assessment and management for common birth injuries in the neonate.
	115.52 Discuss the pathophysiology of cardiac arrest in the neonate.
	115.53 Discuss and demonstrate the assessment and management/treatment plan for cardiac arrest in the neonate.
	115.54 Discuss the pathophysiology of post arrest management of the neonate.
	115.55 Discuss and demonstrate the management to stabilize the post arrest neonate.
	115.56 Demonstrate vascular access cannulation techniques for a newborn except umbilical vein/artery access.
116.0	**Pediatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic. –The student will be able to:
	116.01 Review key growth and developmental characteristics of infants and children and their implications.
	116.02 Identify key anatomical and physiological characteristics of infants and children and their implications.
	116.03 Describe and demonstrate techniques for successful assessment and treatment of infants and children.
	116.04 Outline differences in adult and childhood anatomy and physiology.
	116.05 Identify "normal" age group related vital signs.
	116.06 Determine appropriate airway adjuncts for infants and children.
	116.07 Discuss complications of improper utilization of airway adjuncts with infants and children.
	116.08 Discuss and demonstrate appropriate ventilation devices for infants and children.
	116.09 Discuss complications of improper utilization of ventilation devices with infants and children.

116.10	Identify complications of improper endotracheal intubation procedure in infants and children.
116.11	List the indications and methods for gastric decompression for infants and children.
116.12	Differentiate between upper airway obstruction and lower airway disease.
116.13	Describe the general approach to the treatment of children with respiratory distress, failure, or arrest from upper airway obstruction or lower airway disease.
116.14	Discuss the common causes of hypoperfusion in infants and children.
116.15	Identify the major causes of abnormal cardiac rhythmsin infants and pediatric.
116.16	Discuss the primary etiologies of cardiopulmonary arrest in infants and children.
116.17	Discuss the appropriate equipment for vascular access in infants and children.
116.18	Identify complications of vascular access for infants and children.
116.19	Describe the primary etiologies of altered level of consciousness in infants and children.
116.20	Identify common lethal mechanisms of injury in infants and children.
116.21	Identify infant and child trauma patients who require spinal immobilization.
116.22	Discuss and demonstrate fluid management and shock treatment for infant and child trauma patient.
116.23	Determine when pain management and sedation are appropriate for infants and children.
116.24	Define child abuse and child neglect
116.25	Review mandatory reporting requirements for child abuse/neglect
116.26	Define children with special health care needs.
116.27	Review basic cardiac life support (CPR) guidelines for infants and children.
116.28	Integrate advanced life support skills with basic cardiac life support for infants and children.
116.29	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.
116.30	Discuss the pathophysiology of respiratory distress/failure in infants and children.
116.31	Discuss and demonstrate the assessment and management for respiratory distress/failure in infants and children.
116.32	Discuss the pathophysiology of hypoperfusion in infants and children.

116.33	Discuss and demonstrate the assessment and management for hypoperfusion in infants and children.
116.34	Discuss the pathophysiology of cardiac dysrhythmias in infants and children.
116.35	Discuss and demonstrate the assessment and management for cardiac dysrhythmias in infants and children.
116.36	Discuss the pathophysiology of neurological emergencies in infants and children.
116.37	Discuss and demonstrate the assessment and management for neurological emergencies in infants and children.
116.38	Discuss the pathophysiology of trauma in infants and children.
116.39	Discuss and demonstrate the assessment and management for trauma in infants and children.
116.40	Discuss the pathophysiology of abuse and neglect in infants and children.
116.41	Discuss and demonstrate the assessment and management for abuse and neglect in infants and children, including documentation and reporting.
116.42	Discuss the pathophysiology of children with special health care needs including technology assisted children.
116.43	Discuss and demonstrate the assessment and management for children with special health care needs including technology assisted children.
116.44	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
116.45	Discuss the parent/caregiver responses to the death of an infant or child.
116.46	Discuss the pathophysiology of SUIDS in infants.
116.47	Discuss the assessment findings associated with SUIDS infants.
116.48	Discuss the management/treatment plan for SUIDS in infants.
116.49	Discuss and demonstrate the use of a length-based resuscitation device for determining equipment sizes, drug doses and other pertinent information for a pediatric patient.
116.50	Demonstrate appropriate treatment/management of intubation complications for infants and children.
116.51	Demonstrate appropriate needle cricothyrootomy in infants and children.
116.52	Demonstrate proper placement of a gastric tube in infants and children.
116.53	Demonstrate an appropriate technique for insertion of peripheral intravenous catheters for infants and children.
116.54	Demonstrate an appropriate technique for administration of intramuscular, inhalation, subcutaneous, rectal, endotracheal and oral medication for infants and children.
116.55	Demonstrate an appropriate technique for insertion of an intraosseous line for infants and children.

	116.56 Demonstrate proper technique for direct larnyngoscopy and foreign body retrieval in infants and children with a completely obstructed airway.
	116.57 Demonstrate appropriate spinal motion restriction techniques for infant and child trauma patients.
	116.58 Demonstrate treatment of infants and children with the following injuries: 116.58.01 Head injuries. 116.58.02 Chest injuries 116.58.03 Abdominal injuries 116.58.04 Extremity injuries 116.58.05 Burns
	116.59 Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
	116.60 Demonstrate proper infant and child CPR integrating ALS as appropriate
	116.61 Demonstrate proper techniques for performing infant and child defibrillation and synchronized cardioversion.
117.0	**Geriatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic. –The student will be able to:
	117.01 Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	117.02 Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	117.03 Discuss factors that may complicate the assessment of the elderly patient.
	117.04 Describe principles that should be employed when assessing and communicating with the elderly.
	117.05 Discuss common complaints of elderly patients.
	117.06 Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
	117.07 Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
	117.08 Discuss and demonstrate the assessment and management of the elderly patient with pulmonary complaints, including: 117.08.01 pneumonia 117.08.02 chronic obstructive pulmonary diseases 117.08.03 pulmonary embolism.
	117.09 Identify the need for intervention and transport of the elderly patient with pulmonary complaints.

117.10 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the cardiovascular system, including:
- 117.10.01 myocardial infarction
- 117.10.02 heart failure
- 117.10.03 dysrhythmias
- 117.10.04 aneurism
- 117.10.05 hypertension.

117.11 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the nervous system, including:
- 117.11.01 cerebral vascular disease
- 117.11.02 delirium
- 117.11.03 dementia
- 117.11.04 Alzheimer's disease
- 117.11.05 Parkinson's disease.

117.12 Describe the epidemiology for endocrine diseases in the elderly, including incidence, morbidity/mortality, risk factors, and prevention strategies for patients with diabetes and thyroid diseases.

117.13 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the endocrine system, including diabetes and thyroid diseases.

117.14 Discuss and demonstrate the assessment and management of the elderly patient with the following:
- 117.14.01 gastrointestinal problems.
- 117.14.02 toxicological problems
- 117.14.03 orthopedic injuries, burns and head injuries
- 117.14.04 drug and alcohol abuse
- 117.14.05 environmental considerations
- 117.14.06 depression or suicide risk factors

117.15 Demonstrate the ability to adjust assessment to a geriatric patient.

117.16 Discuss the epidemiology of herpes zoster and inflammatory arthritis in the elderly

118.0 **Patients with Special Challenges:** Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic. –The student will be able to:

118.01 Discuss the incidence of abuse and assault.

118.02 Describe the categories of abuse.

118.03 Discuss examples of each of the following:
- 118.03.01 Domestic partner abuse
- 118.03.02 elder abuse
- 118.03.03 child abuse
- 118.03.04 sexual assault

118.04 Describe the characteristics associated with the profile of the typical abuser of: 118.04.01 domestic abuser 118.04.02 elder abuser 118.04.03 child abuser
118.05 Describe the characteristics associated with the profile of the typical assailant of sexual assault.
118.06 Identify the profile of the "at-risk" domestic partner, "at-risk" elder and "at-risk" child.
118.07 Discuss the legal aspects associated with abuse situations including mandatory reporting.
118.08 Discuss the documentation associated with abused and assaulted patient.
118.09 Demonstrate the ability to assess and manage a domestic partner, elder or child abused patient.
118.10 Demonstrate the ability to assess and manage a sexually assaulted patient.
118.11 Recognize the patient with a hearing impairment.
118.12 Anticipate accommodations that may be needed in order to properly manage the patient with a hearing impairment.
118.13 Recognize the patient with a visual impairment.
118.14 Anticipate accommodations that may be needed in order to properly manage the patient with a visual impairment
118.15 Describe the various etiologies and types of speech impairments.
118.16 Recognize the patient with a speech impairment.
118.17 Describe paraplegia/quadriplegia.
118.18 Describe the various etiologies of mental illness.
118.19 Recognize the presenting signs of the following: 118.19.01 mental illnesses 118.19.02 Developmental disability 118.19.03 Down’s syndrome
118.20 Describe the various etiologies of emotional impairment.
118.21 Recognize the patient with an emotional impairment.

118.22 Describe the following diseases/illnesses and identify each of their possible presenting signs: 118.22.01 Arthritis, 118.22.02 Cancer, 118.22.03 Cerebral palsy, 118.22.04 Cystic fibrosis 118.22.05 Multiple sclerosis, 118.22.06 Muscular dystrophy, 118.22.07 Myasthenia gravis, 118.22.08 Poliomyelitis, 118.22.09 Spina bifida, 118.22.10 patients with a previous head injury
118.23 Identify a patient that is terminally ill.
118.24 Recognize sign(s) of financial impairments.
118.25 Identify the importance of home health care medicine as related to the ALS level of care.
118.26 Differentiate between the role of EMS provider and the role of the home care provider.
118.27 Discuss the aspects of home care that result in enhanced quality of care for a given patient.
118.28 Discuss the aspects of home care that have a potential to become a detriment to the quality of care for a given patient.
118.29 List complications commonly seen in the home care patients, which result in their hospitalization.
118.30 Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
118.31 List the stages of the grief process and relate them to an individual in hospice care.
118.32 Given a series of home care scenarios, determine which patients should receive follow-up home care and which should be transported to an emergency care facility.
118.33 Describe airway maintenance devices typically found in the home care environment.
118.34 Describe devices that provide or enhance alveolar ventilation in the home care setting.
118.35 Describe and access indwelling catheters, implanted central IV ports and central line monitoring.
118.36 Describe complications of assessing each of the airway, vascular access, and GI/GU devices described above.
118.37 Describe the indications and contraindications for urinary catheter insertion in an out-of-hospital setting.
118.38 Identify failure of GI/GU devices found in the home care setting.
118.39 Identify failure of ventilatory devices found in the home care setting.

	118.40 Identify failure of vascular access devices found in the home care setting.
	118.41 Identify and describe the failure of wound drains.
	118.42 Discuss the rights of the terminally ill.
	118.43 Observe for an infected or otherwise complicated venous access point.
	118.44 Demonstrate proper tracheotomy care.
	118.45 Demonstrate the insertion of a new inner cannula and/or the use of an endotracheal tube to temporarily maintain an airway in a tracheostomy patient.
	118.46 Demonstrate how to replace an ostomy tube.
119.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	119.01 Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
120.0	**Incident Management:** Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system. –The student will be able to:
	120.01 Review the EMT standards and benchmarks for Incident Management and apply a complex depth and comprehensive breadth of establishing and working within the incident management system.
121.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:
	121.01 Review the EMT standards and benchmarks for Multiple Casualty Incidents.
122.0	**Air Medical:** Demonstrate a complex depth, comprehensive breadth of air medical transport risks, needs and advantages. –The student will be able to:
	122.01 Describe the advantages and disadvantages of air medical transport.
	122.02 Identify appropriate reasons for the use of air medical for emergency patient transport.
	122.03 Describe the risks involved with the use of air medical transport
	122.04 Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response
	122.05 Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel
123.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	123.01 Review the EMT standards and benchmarks for Vehicle Extrication.
124.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:

	124.01 Review the EMT standards and benchmarks for Hazardous Materials Awareness.
125.0	**Mass Casualty Incidents due to Terrorism and Disasters:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster. –The student will be able to:
	125.01 Review the EMT standards and benchmarks for Mass Casualty Incidents.
Management Option: This option (outcomes 126-136) prepares students for administrative and supervisory positions in the Emergency Medical Services field.	
126.0	Demonstrate leadership and administrative skills basic to management emergency medical service systems–The student will be able to:
	126.01 Describe an emergency medical service system, its scope, national, state and local involvement, and the organizational climate that serves as the setting and framework for managing an emergency medical service system.
	126.02 Identify current trends and perspectives related to the management of health care organizations in general, and emergency medical service systems in particular, and the means by which the application of sound management principles and behavior can facilitate change.
	126.03 Interpret managerial principles, practices and processes and relate them to emergency medical service systems.
	126.04 Identify the role, responsibilities and parameters for the various levels of management within emergency medical service systems.
	126.05 State the control processes and techniques used to ensure that the objectives, strategies, and policies of the emergency medical service system are achieved effectively and efficiently.
	126.06 Relate the various aspects of organizational dynamics (decision making, motivations, leadership, and communication) to the needs and problems of emergency medical service systems.
	126.07 Relate personnel administration practices to the total scope of labor relations, including manpower acquisition, maintenance, and utilization.
127.0	Interpret federal, state and local laws as they apply to emergency medical service systems–The student will be able to:
	127.01 List and discuss federal, state and local laws, administrative rules, requirements and recommendations relating to emergency medical service systems.
	127.02 List required standards and procedures for facility and staff.
	127.03 Identify mandatory requirements regarding environmental health and safety standards.
	127.04 Discuss the impact of legislative changes on emergency medical service systems.
128.0	Demonstrate knowledge of operational and organizational structures of emergency medical service systems–The student will be able to:
	128.01 Describe the functions and standards of departments in emergency medical service systems.
	128.02 Contrast administrative roles and responsibilities in different types of emergency medical service systems.
	128.03 Describe principles and philosophies of emergency medical service systems.

	128.04 Identify several basic principles of emergency medical care.
	128.05 Describe communication techniques within health care systems.
	128.06 Utilize state of the art language and terminology when communicating within the emergency medical service system.
129.0	Demonstrate knowledge of psychological problems and stressors in emergency medical service employees and find appropriate solutions–The student will be able to:
	129.01 Demonstrate knowledge of the worth and dignity of each employee.
	129.02 Accommodate individual differences, characteristics, and behaviors.
	129.03 Adjust employee schedules, personnel assignments, etc. to provide optimum performance.
130.0	Demonstrate knowledge of materials and supplies used in emergency medical service systems–The student will be able to:
	130.01 Evaluate current inventory.
	130.02 Prepare purchase orders with knowledge of current financial status and budgetary constraints.
	130.03 Demonstrate knowledge of optimum quality, price, and quantity.
131.0	Demonstrate knowledge of occupational safety and health–The student will be able to:
	131.01 Prepare a plan for employee safety in the event of emergency situations involving business or office facilities.
	131.02 Identify hazardous materials and substances in the workplace.
	131.03 Identify appropriate storage facilities for all substances.
	131.04 Conduct inservice for employees.
	131.05 Respond to employee inquiries and post notices as needed.
	131.06 Implement appropriate Joint Commission patient safety goals.
132.0	Demonstrate knowledge of appropriate workloads for each employee–The student will be able to:
	132.01 Prepare job descriptions.
	132.02 Prepare job advertisements and notices.
	132.03 Compute man-hours required for each job position within the emergency medical service system.
	132.04 Identify factors that alter the workload and man-hours computed for each position.

133.0	Review, approve and monitor departmental capital and operational budgets–The student will be able to:
133.01	Develop capital budget justification format.
133.02	Delegate capital budget preparation to key managers.
133.03	Analyze and approve appropriate capital budget items.
133.04	Develop an operational budget format.
133.05	Analyze and approve appropriate financial levels in each operational budget.
134.0	Identify and apply legal reimbursement systems–The student will be able to:
134.01	Establish an item charge system that meets reimbursement system requirements.
134.02	Establish a mechanism for utilization review and quality assurance.
134.03	Develop an accounts receivable system which monitors and optimizes reimbursement.
135.0	Comply with accreditation standards of governmental or governmental-appointed agencies and organizations–The student will be able to:
135.01	Describe and discuss procedures to meet required standards for emergency medical service systems.
135.02	Identify the required standards for health care personnel in general and emergency medical service personnel in particular.
135.03	Develop policies and operational procedures to meet required standards.
135.04	Establish liaison mechanisms with appropriate accrediting organizations.
136.0	Demonstrate computer literacy–The student will be able to:
136.01	Describe and demonstrate function and operation of basic computer systems.
136.02	Describe and demonstrate various types of computer systems and their specific applications.
136.03	Describe and demonstrate general applications such as word processing, database management, spreadsheets, and communications.
136.04	Describe and discuss special applications such as computer-aided dispatch (CAD), quality assurance, and inventory control.
Education Option: This option (outcomes 137-142) prepares students as trainers and/or instructors in the EMS field.	
137.0	Demonstrate knowledge of basic teaching methods, learning and educational psychology–The student will be able to:
137.01	Describe and demonstrate various methods of student learning.

	137.02 Describe and demonstrate various methods of teaching as they apply to student learning techniques.
	137.03 Describe and demonstrate competency-based education (CBE).
	137.04 Describe and demonstrate short-term and long-term memory and the implications of each on the student learning process.
	137.05 Describe and demonstrate various educational psychologies.
138.0	Describe and discuss curriculum design and development–The student will be able to:
	138.01 Develop and discuss needs assessments.
	138.02 Develop a task analysis.
	138.03 Develop student behavioral objectives.
	138.04 Design and develop competency-based curriculum.
	138.05 Integrate curriculum with current occupational responsibilities.
	138.06 Perform on-going curriculum review and development.
139.0	Demonstrate appropriate measurement and evaluation skills–The student will be able to:
	139.01 Construct appropriate objective tests commensurate with curriculum.
	139.02 Develop effective measurement instruments for student performance in clinical settings.
	139.03 Develop effective evaluation tools for evaluating student performance.
	139.04 Record, monitor, and provide feedback to student regarding student progress.
140.0	Demonstrate mastery of required technical skills–The student will be able to:
	140.01 Demonstrate performance of basic life support instructor skills.
	140.02 Demonstrate performance of advanced life support instructor skills.
	140.03 Demonstrate performance of trauma life support instructor skills.
	140.04 Demonstrate performance of other medical skills appropriate to the emergency medical services curriculum.
141.0	Demonstrate classroom management skills–The student will be able to:
	141.01 Demonstrate and apply effective leadership skills.

141.02	Demonstrate and apply effective motivational skills.
141.03	Demonstrate and apply effective organizational skills.
141.04	Demonstrate and apply effective disciplinary skill.
142.0	Demonstrate computer literacy–The student will be able to:
142.01	Describe and discuss various types of computer systems and their specific applications as they relate to Emergency Medical Services.
142.02	Describe and discuss applications such as word processing, database management, spreadsheets, communications, and computer-aided instruction (CAI) as they relate to Emergency Medical Services.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The following ATD program has been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Emergency Medical Technician-ATD (0351090403/0351090404) – 11 credits (This program will be daggered beginning in 2016-2017 school year.)
Emergency Medical Technician –ATD (New) (0351090413/0351090408) – 12 credits

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Emergency Medical Technician (NREMT001) – 9 credits

Through the use of common core courses and the addition of several optional courses, this program is designed to prepare students for employment in the following occupational areas:

Education Option: Field Training Officer, In-service Training Officer, or EMS Instructor, **SOC Code 25-1194 Vocational Education Teachers, Postsecondary** or to provide supplemental training for persons previously or currently employed in these occupations. The program must be approved by the Department of Health, Office of Emergency Medical Services (EMS); and the curriculum must adhere to the US Department of Transportation (DOT) National EMS Educational Standards for both the EMT and Paramedic.

Management Option: EMS Coordinator, EMS Supervisor, EMS Shift Supervisor, Operations Manager, EMS Manager, or Director of EMS Services. SOC Code 11-1021 (General and Operations Managers).

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Paramedic (0351090405) – 42 credit hours
Emergency Medical Technician (0351090400) – 11 credit hours (This program will be daggered beginning in 2016-2017 school year.)
Emergency Medical Technician (New) (0351090415) – 12 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Nuclear Medicine Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351090502
Program Type	College Credit
Standard Length	75 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2033 Nuclear Medicine Technologists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as radiologic technologists or nuclear medicine technologists, SOC Code-29-2033 (Nuclear Medicine Technologists) or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to the utilization of radioactive materials for diagnostic and therapeutic procedures, patient care, administrative functions, health and safety including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 75 credit hours.

Regulated Programs

The program must also be approved by the Department of Health Bureau of Radiation Control so that the graduate is eligible to be licensed in Florida as a Certified Radiologic Technologist - Nuclear Medicine (i.e., a Nuclear Medicine Technologist). As specified in Chapter 468, Part IV and

64E-FAC. All accredited NMT programs which are recognized and accepted by either the American Registry of Radiologic Technologists (ARRT), or the Nuclear Medicine Technology Certification Board (NMTCB), are approved by the Department of Health.

Students who complete the program will be eligible to apply to the Department of Health for the required state Nuclear Medicine Technologist license. For further information contact:

Department of Health
MQA Radiologic Technology Program
4052 Bald Cypress Way, Bin #C85
Tallahassee, FL 32399
Phone: (850) 245-4910
Fax: (850) 921-6365

Students who complete the program will be eligible to make an application to take one or both of the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612) 687-0048

Or

Nuclear Medicine Technology Certification Board (NMTCB)
3558 Habersham at Northlake
Building I
Tucker, GA 30084
Toll Free: (800) 659-3953

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice radiation safety.
13.0 Practice basic radiopharmacy.
14.0 Calculate doses and administer radiopharmaceuticals and interventional pharmaceuticals.
15.0 Perform "in vitro"/"in vivo" nonimaging procedures.
16.0 Perform imaging procedures.
17.0 Practice quality control.

Florida Department of Education
Student Performance Standards

Program Title: **Nuclear Medicine Technology**
CIP Number: **1351090502**
Program Length: **75 credit hours**
SOC Code(s): **29-2033**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document. You can access the course standards and benchmarks by visiting this link:

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Nuclear Medicine Technology: (12-17)	
12.0	Practice radiation safety–The student will be able to:
12.01	Assure compliance with local, state and federal regulations.
12.02	Follow appropriate protection procedures for patients, coworkers and public.
12.03	Follow approved procedures for identifying and labeling radioactive material and radiopharmaceutical doses.
12.04	Perform area surveys and wipe tests.
12.05	Appropriately dispose of radioactive waste.
12.06	Practice personnel monitoring of radiation exposure.
12.07	Perform decontamination procedures.
12.08	Implement appropriate The Joint Commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.
13.0	Practice basic radiopharmacy–The student will be able to:

	13.01 Maintain radiopharmaceutical laboratory records and materials.
	13.02 Observe generatoreluate in practice lab, clinical sites or radiopharmacy.
	13.03 Prepare radiopharmaceuticals and perform quality control tests in practice lab only or observation in clinical sites
	13.04 Demonstrate understanding of ordering radiopharmaceuticals in appropriate dosage and effective time frame.
14.0	Calculate doses and administer radiopharmaceutical and interventional pharmaceuticals–The student will be able to:
	14.01 Perform dose calibrator quality control tests.
	14.02 Calculate the activity and volume of dose.
	14.03 Assay radiopharmaceuticals.
	14.04 Properly administer dose using appropriate route.
	14.05 Properly calculate, prepare, and administer interventional pharmaceuticals.
	14.06 Perform venipuncture accurately and efficiently.
	14.07 Participate in the tagging of blood cells.
	14.08 Maintain records of administrations/preparations.
	14.09 Strictly observe precautions and contraindications of medications and radiopharmaceuticals.
	14.10 Evaluate patients' history and needs and care for them accordingly.
	14.11 Appropriately support treatment for adverse effects.
	14.12 Document accordingly following the facility protocol.
15.0	Perform "in vitro"/"in vivo" nonimaging procedures–The student will be able to:
	15.01 Operate conventional laboratory equipment.
	15.02 Simulate the preparation of doses and standards in the practice lab.
	15.03 Accurately and efficiently simulate the collection of specimensin the practice lab.
	15.04 Operate radiation detection equipment.
	15.05 Simulate the performance of radioassays and calcuations.in the practice lab.

16.0	Perform imaging procedures–The student will be able to:
16.01	Verify order, history and protocol for patient prior to proceeding.
16.02	Verify identity of patient and educate them on procedure.
16.03	Prepare patient as needed for procedure.
16.04	Select proper acquisition parameters to obtain planar, SPECT/CT, and PET/CT images.
16.05	Appropriately perform planar, SPECT/CT, and PET/CT data processing using reconstruction techniques.
16.06	Properly prepare images to be sent to physician according to facility protocol.
16.07	Perform PACS procedures according to facility protocol.
16.08	Maintain appropriate records.
17.0	Practice quality control–The student will be able to:
17.01	Perform scheduled quality control testing of laboratory and imaging equipment.
17.02	Operate scintillation counters.
17.03	Operate and perform daily quality control on gas-filled detectors.
17.04	Maintain a quality assurance program according to agencies such as Florida Bureau of Radiation Control, JRCNMT, NRC, ACR and OSHA.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program must be accredited by the:

Joint Review Committee on Educational Programs in Nuclear Medicine Technology
2000 W. Danforth Rd., Ste 130 #203
Edmond OK 73003
Tel: (405) 285-0546
Fax: (405) 285-0579

Or

Southern Association of Colleges and Schools (SACS)
2520 Northwinds Parkway
Suite 600
Alpharetta, GA 30009
888-41ED NOW (888-413-3669)

The nuclear medicine technologist performs patient care with understanding of patients' special needs, fears and concerns and recognizes changes in patient condition. Limiting the exposure of the patient and other health care workers to minimal levels of radiation is of paramount importance.

A fundamental knowledge and understanding of the physical and biological sciences, including radiation biology and protection, as well as radiopharmaceuticals "in vivo" and "in vitro", is essential: nuclear physics, biochemistry, immunology, physiology and an introduction to computer application/operation with data manipulation must be included.

Students are encouraged to become members of their appropriate professional organizations such as the Society of Nuclear Medicine – Technologist Section (SNM-TS), Florida Nuclear Medicine Technologists, Inc. (FNMT), the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its local affiliate.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Nuclear Medicine Technology Specialist (0351090503) – 48 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Radiography**
Career Cluster: **Health Science**

AS	
CIP Number	1351090700
Program Type	College Credit
Standard Length	77 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2034 Radiologic Technologists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as Radiographers, Radiologic Technologists SOC Code 29-2034 (Radiologic Technologists/Technicians) or to provide supplemental training for persons previously or presently employed in these occupations.

The content includes but is not limited to introduction to radiography, medical ethics and law, medical terminology, methods of patient care, human structure and function, radiographic procedures, principles of radiographic exposure, imaging equipment, radiographic film processing, evaluation of radiographs, radiation physics, principles of radiation protection, principles of radiation biology, radiographic pathology, introduction to quality assurance, introduction to computer literacy, and clinical education. The curriculum includes a plan for well-structured competency based clinical education.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 77 credit hours.

Regulated Programs

The program must be accredited. by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 900, Chicago, Illinois 60606-2901, (312) 704-5300, or by the Southern Association of Colleges and Schools.

The program must also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible for licensure in Florida as a Certified Radiologic Technologist. As specified in Chapter 468 Part IV F.S. and Chapter 64E-3 F.A.C.

Program completers will be eligible to make an application to take the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612) 687-0048

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a functional knowledge of medical terminology required in radiologic science.
02.0 Convey an understanding of the ethics and laws that impact Radiologic Sciences at both the state and federal levels.
03.0 Demonstrate introductory knowledge of radiologic science and the health care system.
04.0 Demonstrate knowledge of and perform patient care procedures required in radiologic sciences.
05.0 Demonstrate an understanding of pharmacology and venipuncture procedures as it relates to radiologic science.
06.0 Demonstrate proficiency in the skills, techniques and knowledge required for image analysis.
07.0 Demonstrate proficiency in the skills, techniques and knowledge required to operate imaging equipment.
08.0 Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including x-ray production, image formation, and factors related to radiographic quality.
09.0 Demonstrate an understanding of the structure and function of the human body with a focus on the muscular, endocrine, respiratory, urinary and appendicular skeletal systems.
10.0 Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate radiographic procedures.
11.0 Demonstrate the proficiency in the skills and knowledge required of clinical practice.
12.0 Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including image acquisition and processing, scatter radiation control, and image evaluation.
13.0 Demonstrate an understanding of the concepts and equipment required of digital image acquisition and display.
14.0 Demonstrate an understanding of the structure and function of the human body with a focus on the axial skeletal system.
15.0 Demonstrate an understanding of the structure and function of the human body with a focus on the circulatory/cardiovascular, digestive and reproductive systems.
16.0 Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate fluoroscopic procedures.
17.0 Demonstrate an understanding of the structure and function of the human body with a focus on the nervous system.
18.0 Demonstrate introductory knowledge of computed tomography.
19.0 Demonstrate appropriate venipuncture technique.
20.0 Demonstrate an understanding of radiographic pathology.
21.0 Demonstrate an understanding of how radiation is produced and the characteristics of different classifications of radiation.
22.0 Demonstrate an understanding of the structure and function of the human body including the immune system and chemical composition of the body.
23.0 Demonstrate an understanding of the integral aspects of radiation biology required of a radiographer.
24.0 Convey the importance for proper radiation protection and the precautions radiographers should take to prevent unnecessary exposure to themselves and patients.

Florida Department of Education
Student Performance Standards

Program Title: **Radiography**
CIP Number: **1351090700**
Program Length: **77 credit hours**
SOC Code(s): **29-2034**

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The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate a functional knowledge of medical terminology required in radiologic science. –The student will be able to:
01.01	Apply the word-building process.
01.02	Interpret medical abbreviations and symbols.
01.03	Critique orders, requests and diagnostic reports.
01.04	Define medical imaging and radiation oncology terms.
01.05	Translate medical terms, abbreviations and symbols into common language from a medical report.
02.0	Convey an understanding of the ethics and laws that impact Radiologic Sciences at both the state and federal levels. –The student will be able to:
02.01	Discuss the origins of medical ethics.
02.02	Apply medical/professional ethics in the context of a broader societal ethic.
02.03	Explain the role of ethical behavior in health care delivery.
02.04	Explain concepts of personal honesty, integrity, accountability, competence and compassion as ethical imperatives in health care.
02.05	Identify legal and professional standards and relate each to practice in health professions.
02.06	Identify specific situations and conditions that give rise to ethical dilemmas in health care.
02.07	Explain select concepts embodied in the principles of patients' rights, the doctrine of informed (patient) consent and other issues related to patients' rights.

02.08	Explain the legal implications of professional liability, malpractice, professional negligence and other legal doctrines applicable to professional practice.
02.09	Describe the importance of accurate, complete and correct methods of documentation as a legal/ethical imperative.
02.10	Explore theoretical situations and questions relating to the ethics of care and health care delivery.
02.11	Explain legal terms, principles, doctrines and laws specific to the radiologic sciences.
02.12	Outline the conditions necessary for a valid malpractice claim.
02.13	Describe institutional and professional liability protection typically available to the radiographer.
02.14	Describe the components and implications of informed consent.
02.15	Identify standards for disclosure relative to informed consent.
02.16	Describe how consent forms are used relative to specific radiographic procedures.
02.17	Differentiate between civil and criminal liability.
02.18	Define tort and explain the differences between intentional and unintentional torts.
02.19	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
03.0	Demonstrate introductory knowledge of radiologic science and the health care system. –The student will be able to:
03.01	Identify other health science professions that participate in the patient's total health care.
03.02	Identify various settings involved in the delivery of health care.
03.03	Discuss the reimbursement/payment options for health care services.
03.04	Discuss the role and value of a mission statement to the operation of an institution.
03.05	Describe relationships and interdependencies of departments within a health care institution.
03.06	Discuss the responsibilities and relationships of all personnel in the radiology department.
03.07	Differentiate between quality improvement/management, quality assurance and quality control.
03.08	Differentiate among accreditation types.
03.09	Define credentialing, certification, registration, licensure and regulations.
03.10	Discuss career opportunities and advancement for the radiographer.

	03.11	Identify the benefits of continuing education as related to improved patient care and professional enhancement.
04.0	Demonstrate knowledge of and perform patient care procedures required in radiologic sciences. –The student will be able to:	
	04.01	Identify the responsibilities of the health care facility and members of the health care team.
	04.02	List the general responsibilities of the radiographer.
	04.03	Describe the practice standards for the radiographer as defined by the ASRT and state licensure.
	04.04	Differentiate between culture and ethnicity.
	04.05	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
	04.06	Explain perceptions of dying and death from the viewpoint of both patient and radiographer.
	04.07	Describe the characteristics of each stage of grief.
	04.08	Identify methods for determining the correct patient for a given procedure.
	04.09	Explain the use of various communication devices and systems.
	04.10	Explain specific aspects of a radiographic procedure to the patient.
	04.11	Demonstrate correct principles of body mechanics applicable to patient care.
	04.12	Demonstrate techniques for specific types of patient transfer.
	04.13	Demonstrate select procedures to turn patients with various health conditions.
	04.14	Describe select immobilization techniques for various types of procedures and patient conditions.
	04.15	Describe specific patient safety measures and concerns.
	04.16	Explain the purpose, legal considerations and procedures for incident reporting.
	04.17	Describe methods to evaluate patient physical status.
	04.18	List the information to be collected prior to a patient examination.
	04.19	Describe vital signs and lab values used to assess patient condition, including sites for assessment and normal values.
	04.20	Define terms related to infection control.
	04.21	Describe the importance of standard precautions and isolation procedures, including sources and modes of transmission of infection and disease and institutional control procedures.

04.22	Identify symptoms related to specific emergency situations.
04.23	Describe the institution's emergency medical code system and the role of the student during a medical emergency.
04.24	Explain the age-specific considerations necessary when performing radiographic procedures.
04.25	Describe appropriate procedures for management of various types of trauma situations.
04.26	Describe the symptoms and medical interventions for a patient with a contrast agent reaction.
04.27	Explain the role of the radiographer in patient education.
04.28	Describe the patient preparation for contrast studies.
04.29	Identify specific types of tubes, lines, catheters and collection devices.
04.30	Outline the steps in the operation and maintenance of suction equipment.
04.31	Outline the steps in the operation and maintenance of oxygen equipment and demonstrate proper use.
04.32	Demonstrate competency in basic life support (BLS).
04.33	Describe the steps in performing various mobile procedures.
04.34	Describe the special problems faced in performing procedures on a patient with a tracheotomy and specific tubes, drains and catheters.
04.35	Describe the procedure for producing diagnostic images in the surgical suite.
04.36	Explain the appropriate radiation protection required when performing mobile/surgical radiography.
05.0	Demonstrate an understanding of pharmacology and venipuncture procedures as it relates to radiologic science. –The student will be able to:
05.01	Distinguish among the chemical, generic and trade names for drugs in general.
05.02	Describe pharmacokinetic and pharmacodynamic principles of drugs.
05.03	Explain the uses and impact of drug categories on the patient.
05.04	Define the categories of contrast agents and give specific examples for each category.
05.05	Explain the pharmacology of contrast agents.
05.06	Describe methods and techniques for administering various types of contrast agents.
05.07	Identify and describe the routes of drug administration.

06.0	Demonstrate proficiency in the skills, techniques and knowledge required for image analysis. –The student will be able to:
06.01	Discuss the elements of a radiographic image.
06.02	Identify anatomy on radiographic images.
06.03	Apply a problem-solving process used for image analysis.
06.04	Describe an effective image analysis method.
06.05	Describe the role of the radiographer in image analysis.
06.06	Apply the process for evaluating images for adequate density/brightness, contrast, recorded detail/spatial resolution and acceptable limits of distortion.
06.07	Explain how the radiographer determines that an adequate level of penetration has been applied to produce an acceptable image.
06.08	Summarize the importance of proper positioning.
06.09	Discuss the impact of patient preparation on the resulting radiographic image.
06.10	Analyze images to determine the appropriate use of beam restriction.
06.11	Identify common equipment malfunctions that affect image quality, and corrective action.
06.12	Differentiate between technical factor problems, procedural factor problems and equipment malfunctions.
06.13	Critique images for appropriate technical, procedural and pathologic factors, and employ corrective actions if necessary.
06.14	Differentiate images produced by various modalities.
07.0	Demonstrate proficiency in the skills, techniques and knowledge required to operate imaging equipment. –The student will be able to:
07.01	Define potential difference, current and resistance.
07.02	Identify the general components and functions of the tube and filament circuits.
07.03	Compare generators in terms of radiation produced and efficiency.
07.04	Discuss permanent installation of radiographic equipment in terms of purpose, components, types and applications.
07.05	Demonstrate operation of various types of permanently installed and mobile radiographic equipment.
07.06	Discuss mobile units in terms of purpose, components, types and applications.
07.07	Describe functions of components of automatic exposure control (AEC) devices.

	07.08 Demonstrate proper use of AEC devices.
	07.09 Identify the components of diagnostic x-ray tubes.
	07.10 Explain protocols used to extend x-ray tube life.
	07.11 Explain image-intensified and digital fluoroscopy.
	07.12 Indicate the purpose, construction and application of video camera tubes, CCD and TV monitors.
	07.13 Differentiate between quality improvement/management, quality assurance and quality control.
	07.14 List the benefits of a quality control to the patient and to the department.
	07.15 Discuss the proper test equipment/procedures for evaluating the operation of an x-ray generator.
	07.16 Evaluate the results of basic QC tests.
	07.17 Discuss the basic principles of operation of various imaging modalities and radiation therapy.
08.0	Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including x-ray production, image formation, and factors related to radiographic quality. –The student will be able to:
	08.01 Discuss practical considerations in setting standards for acceptable image quality.
	08.02 Assess radiographic exposure on radiographic images.
	08.03 Analyze the relationships of factors that control and affect image exposure.
	08.04 Critique the radiographic contrast within various radiographic images.
	08.05 Analyze the relationship of factors that control and affect radiographic contrast.
	08.06 Critique recorded detail on various radiographic images.
	08.07 Analyze the relationships of factors that control and affect recorded detail.
	08.08 Differentiate between size and shape distortion.
	08.09 Perform calculations to determine image magnification and percent magnification.
	08.10 Summarize the relationship of factors that control and affect distortion.
	08.11 Summarize the relationship of factors affecting exposure latitude.
	08.12 Explain the rationale for using beam-limiting devices.

	08.13 Describe the operation and applications for different types of beam-limiting devices.
	08.14 Explain how beam filtration affects x-ray beam intensity, beam quality and resultant patient exposure.
	08.15 Describe the change in the half-value layer (HVL) when filtration is added or removed in the beam.
09.0	Demonstrate an understanding of the structure and function of the human body with a focus on the muscular, endocrine, respiratory, urinary and appendicular skeletal systems. –The student will be able to:
	09.01 Discuss the basics of anatomical nomenclature.
	09.02 Describe the types and functions of human tissues.
	09.03 Classify tissue types, describe the functional characteristics of each and give examples of their location within the human body.
	09.04 Describe the composition and characteristics of bone.
	09.05 Identify and locate the bones of the human appendicular skeleton.
	09.06 Identify bony processes and depressions found on the human appendicular skeleton.
	09.07 Describe articulations of the appendicular skeleton.
	09.08 Summarize the functions of the appendicular skeletal system.
	09.09 Label different types of articulations specific to the appendicular skeletal system.
	09.10 Compare the types, locations and movements permitted by the different types of articulations.
	09.11 Examine how muscle is organized at the gross and microscopic levels.
	09.12 Differentiate between the structures of each type of muscle tissue.
	09.13 State the function of each type of muscle tissue.
	09.14 Name and locate the major muscles of the skeleton.
	09.15 Define endocrine.
	09.16 Describe the characteristics and functions of the components that comprise the endocrine system.
	09.17 Differentiate between peritoneum, omentum and mesentery.
	09.18 Label the components of the respiratory system.
	09.19 Describe the physiology and regulation of respiration.

	09.20	Label the parts of the kidneys, ureters, bladder and urethra.
	09.21	Describe the function of each organ of the urinary system.
	09.22	Describe the composition and formation of urine.
	09.23	Explain micturition.
10.0	Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate radiographic procedures. –The student will be able to:	
	10.01	Describe standard positioning terms.
	10.02	Demonstrate proper use of positioning aids.
	10.03	Discuss general procedural considerations for radiographic exams.
	10.04	Identify methods and barriers of communication and describe how each may be used or overcome effectively during patient education.
	10.05	Explain radiographic procedures to patients/family members.
	10.06	Modify directions to patients with various communication problems.
	10.07	Develop an awareness of cultural factors that necessitate adapting standard exam protocols.
	10.08	Adapt general procedural considerations to specific clinical settings.
	10.09	Identify the structures demonstrated on routine radiographic images.
	10.10	Adapt radiographic procedures for special considerations.
	10.11	Simulate radiographic procedures on a person or phantom in a laboratory setting.
	10.12	Evaluate images for positioning, centering, appropriate anatomy and overall image quality.
	10.13	Discuss equipment and supplies necessary to complete basic radiographic procedures.
	10.14	Explain the routine and special positions/projections for all radiographic procedures.
	10.15	Describe the general purpose of radiographic studies.
	10.16	Apply general radiation safety and protection practices associated with radiographic examinations.
11.0	Demonstrate the proficiency in the skills and knowledge required of clinical practice. –The student will be able to:	
	11.01	Exercise the priorities required in daily clinical practice.

11.02	Execute medical imaging procedures under the appropriate level of supervision.
11.03	Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution.
11.04	Adapt to changes and varying clinical situations.
11.05	Describe the role of health care team members in responding/reacting to a local or national emergency.
11.06	Provide patient-centered, clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture.
11.07	Integrate the use of appropriate and effective written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting.
11.08	Integrate appropriate personal and professional values into clinical practice.
11.09	Recognize the influence of professional values on patient care.
11.10	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
11.11	Use patient and family education strategies appropriate to the comprehension level of the patient/family.
11.12	Provide desired psychosocial support to the patient and family.
11.13	Demonstrate competent assessment skills through effective management of the patient's physical and mental status.
11.14	Respond appropriately to medical emergencies.
11.15	Examine demographic factors that influence patient compliance with medical care.
11.16	Adapt procedures to meet age-specific, disease-specific and cultural needs of patients.
11.17	Assess the patient and record clinical history.
11.18	Demonstrate basic life support procedures.
11.19	Use appropriate charting methods.
11.20	Recognize life-threatening electrocardiogram (ECG) tracing.
11.21	Apply standard and transmission-based precautions.
11.22	Apply the appropriate medical asepsis and sterile technique.
11.23	Demonstrate competency in the principles of radiation protection standards.
11.24	Apply the principles of total quality management.

11.25	Report equipment malfunctions.
11.26	Examine procedure orders for accuracy and make corrective actions when applicable.
11.27	Demonstrate safe, ethical and legal practices.
11.28	Integrate the radiographer's practice standards into clinical practice setting.
11.29	Maintain patient confidentiality standards and meet HIPAA requirements.
11.30	Demonstrate the principles of transferring, positioning and immobilizing patients.
11.31	Comply with departmental and institutional response to emergencies, disasters and accidents.
11.32	Differentiate between emergency and non-emergency procedures.
11.33	Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, providing radiologic procedures and reducing medical errors.
11.34	Select technical factors to produce quality diagnostic images with the lowest radiation exposure possible.
11.35	Critique images for appropriate anatomy, image quality and patient identification.
11.36	Determine corrective measures to improve inadequate images.
12.0	Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including image acquisition and processing, scatter radiation control, and image evaluation. –The student will be able to:
12.01	Summarize the relationship of factors affecting scattered and secondary radiation.
12.02	Evaluate the effects of scattered radiation on the image.
12.03	Compare grid types.
12.04	Select the most appropriate grid for a given clinical situation.
12.05	Interpret grid efficiency in terms of grid ratio and frequency.
12.06	Summarize the factors that influence grid cutoff.
12.07	Evaluate grid artifacts.
12.08	Explain the use of standardized radiographic technique charts.
12.09	Explain exposure factor considerations involved in selecting techniques.
12.10	Compare fixed kilovoltage peak (kVp) and variable kVp systems.

	12.11	Apply the reciprocity law to clinical situations.
	12.12	Apply conversion factors for changes in the following areas: distance, grid, image receptors, reciprocity law and 15 percent rule.
13.0	Demonstrate an understanding of the concepts and equipment required of digital image acquisition and display. –The student will be able to:	
	13.01	Define terminology associated with digital imaging systems.
	13.02	Describe the various types of digital receptors.
	13.03	Describe the response of digital detectors to exposure variations.
	13.04	Compare the advantages and limits of each receptor type.
	13.05	Evaluate the spatial resolution and dose effectiveness for digital radiography detectors.
	13.06	Describe the histogram and the process or histogram analysis as it relates to automatic rescaling and determining an exposure indicator.
	13.07	Relate the receptor exposure indicator values to technical factors, system calibration, part/beam/plate alignment and patient exposure.
	13.08	Describe the response of PSP systems to background and scatter radiation.
	13.09	Use appropriate means of scatter control.
	13.10	Avoid grid use errors associated with grid cutoff and Moiré effect.
	13.11	Identify common limitations and technical problems encountered when using PSP systems.
	13.12	Employ appropriate beam/part/receptor alignment to avoid histogram analysis errors.
	13.13	Associate impact of image processing parameters to the image appearance.
	13.14	Apply the fundamental principles to digital detectors.
	13.15	Evaluate the effect of a given exposure change on histogram shape, data width and image appearance.
	13.16	Describe the conditions that cause quantum mottle in a digital image.
	13.17	Formulate a procedure or process to minimize histogram analysis and rescaling errors.
	13.18	Examine the potential impact of digital radiographic systems on patient exposure and methods of practicing the as low as reasonably achievable (ALARA) concept with digital systems.
	13.19	Describe picture archival and communications system (PACS) and its function.

	13.20 Identify components of a PACS.
	13.21 Define digital imaging and communications in medicine (DICOM).
	13.22 Describe HIPAA concerns with electronic information.
	13.23 Identify common problems associated with retrieving/viewing images within a PACS.
14.0	Demonstrate an understanding of the structure and function of the human body with a focus on the axial skeletal system. –The student will be able to:
	14.01 Describe articulations of the axial skeleton.
	14.02 Differentiate the primary and secondary curves of the spine.
	14.03 Identify and locate the bones of the human axial skeleton.
	14.04 Identify bony processes and depressions found on the human axial skeleton.
	14.05 Summarize the functions of the axial skeletal system.
	14.06 Label different types of articulations specific to the axial skeletal system.
15.0	Demonstrate an understanding of the structure and function of the human body with a focus on the circulatory/cardiovascular, digestive and reproductive systems. –The student will be able to:
	15.01 Describe the composition and characteristics of blood.
	15.02 List the types of blood cells and state their functions.
	15.03 Differentiate between blood plasma and serum.
	15.04 Outline the clotting mechanism.
	15.05 List the blood types.
	15.06 Explain the term Rh factor.
	15.07 Explain the antigen/antibody relationship and its use in blood typing.
	15.08 Label the parts of the human heart.
	15.09 Describe the flow of blood through the body and identify the main vessels.
	15.10 Describe the structure and function of arteries, veins and capillaries.
	15.11 Differentiate between arterial blood in systemic circulation and arterial blood in pulmonary circulation.

	15.12 Outline the major pathways of lymphatic circulation.
	15.13 Correlate cardiac electrophysiology to a normal ECG tracing.
	15.14 Label the anatomy of the male and female reproductive organs.
	15.15 Analyze the function of each of the male and female reproductive organs.
	15.16 Describe the structures and functions of the components that comprise the human eye and ear.
	15.17 List the component body parts involved in the senses of smell and taste.
	15.18 List the somatic senses.
	15.19 Describe the hard and soft palates.
	15.20 Describe the structure and function of the tongue.
	15.21 Identify the structure, function and locations of the salivary glands.
	15.22 List and label the accessory organs of the digestive system and describe their function.
	15.23 Describe the composition and characteristics of the primary organs of the digestive system.
	15.24 Describe the function(s) of each primary organ of the digestive system.
	15.25 Differentiate between the layers of tissue that comprise the esophagus, stomach, small intestine, large intestine and rectum.
	15.26 Identify the secretions and function of each accessory organ of the digestive system.
	15.27 Explain the purpose of digestion.
	15.28 List the digestive processes that occur in the body.
16.0	Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate fluoroscopic procedures. –The student will be able to:
	16.01 Identify the structures demonstrated on routine fluoroscopic images.
	16.02 Adapt fluoroscopic procedures for special considerations.
	16.03 Simulate fluoroscopic procedures on a person or phantom in a laboratory setting.
	16.04 Evaluate images for positioning, centering, appropriate anatomy and overall image quality.
	16.05 Discuss equipment and supplies necessary to complete basic fluoroscopic procedures.

	16.06 Explain the patient preparation necessary for various contrast and special studies.
	16.07 Explain the routine and special positions/projections for all fluoroscopic procedures.
	16.08 Explain the purpose for using contrast media.
	16.09 Name the type, dosage and route of administration of contrast media commonly used to perform radiographic contrast and special studies.
	16.10 Describe the general purpose of fluoroscopic studies.
	16.11 Apply general radiation safety and protection practices associated with fluoroscopic examinations.
17.0	Demonstrate an understanding of the structure and function of the human body with a focus on the nervous system. –The student will be able to:
	17.01 Differentiate between the structure and function of different types of nerve cells.
	17.02 State the structure of the brain and the relationship of its component parts.
	17.03 Describe brain functions.
	17.04 List the meninges and describe the function of each.
	17.05 Outline how cerebrospinal fluid forms, circulates and functions.
	17.06 Describe the structure and function of the spinal cord.
	17.07 Determine the distribution and function of cranial and spinal nerves.
	17.08 Summarize the structure and function of components that comprise the autonomic nervous system.
18.0	Demonstrate introductory knowledge of computed tomography. –The student will be able to:
	18.01 Describe the components of the CT imaging system.
	18.02 Explain the functions of collimators in CT.
	18.03 List the CT computer data processing steps.
	18.04 Define algorithm and explain its impact on image scan factors and reconstruction.
	18.05 Define raw data and image data.
	18.06 Describe the following terms in relation to the CT data acquisition process:
	a. Pixel.

	b. Matrix.
	c. Voxel.
	d. Linear attenuation coefficient.
	e. CT/Hounsfield number.
	f. Partial volume averaging.
	g. Window width (ww) and window level (wl).
	h. Spatial resolution.
	i. Contrast resolution.
	j. Noise.
	k. Annotation.
	l. Region of interest (ROI).
18.07	Name the common controls found on CT operator consoles and describe how and why each is used.
18.08	Identify the types and appearance of artifacts most commonly affecting CT images.
18.09	Name the radiation protection devices that can be used to reduce patient dose in CT and describe the correct application of each.
18.10	Describe the general purpose of commonly performed CT studies.
18.11	Discuss general radiation safety and protection practices associated with examinations in CT.
19.0	Demonstrate appropriate venipuncture technique. –The student will be able to:
19.01	Differentiate between the two major sites of intravenous drug administration.
19.02	Identify, describe and document complications associated with venipuncture and appropriate actions to resolve these complications.
19.03	Discuss the various elements of initiating and discontinuing intravenous access.
19.04	Differentiate and document dose calculations for adult and pediatric patients.
19.05	Prepare for injection of contrast agents/intravenous medications using aseptic technique.
19.06	Explain the current legal status and professional liability issues of the radiographer’s role in contrast and/or drug administration.

20.0	Demonstrate an understanding of radiographic pathology. –The student will be able to:
	20.01 Define basic terms related to pathology.
	20.02 Describe the basic manifestations of pathological conditions and their relevance to radiologic procedures.
	20.03 Discuss the classifications of trauma.
	20.04 Describe imaging procedures used in diagnosing disease.
	20.05 List the causes of tissue disruption.
	20.06 Describe the healing process.
	20.07 Identify complications connected with the repair and replacement of tissue.
	20.08 Describe the various systemic classifications of disease in terms of etiology, types, common sites, complications and prognosis.
	20.09 Describe the radiographic appearance of diseases.
	20.10 Identify imaging procedures and interventional techniques appropriate for diseases common to each body system.
	20.11 Identify diseases caused by or connected to genetic factors.
21.0	Demonstrate an understanding of how radiation is produced and the characteristics of different classifications of radiation. –The student will be able to:
	21.01 Describe fundamental atomic structure.
	21.02 Explain the processes of ionization and excitation.
	21.03 Describe the electromagnetic spectrum.
	21.04 Describe wavelength and frequency and how they are related to velocity.
	21.05 Explain the relationship of energy, wavelength and frequency.
	21.06 Explain the wave-particle duality phenomena.
	21.07 Identify the properties of x-rays.
	21.08 Describe the processes of ionization and excitation.
	21.09 Describe charged and uncharged forms of particulate radiation.
	21.10 Differentiate between ionizing and nonionizing radiation.

	21.11 Describe radioactivity and radioactive decay in terms of alpha, beta and gamma emission.
	21.12 Compare the production of bremsstrahlung and characteristic radiations.
	21.13 Describe the conditions necessary to produce x-radiation.
	21.14 Describe the x-ray emission spectra.
	21.15 Identify the factors that affect the x-ray emission spectra.
	21.16 Discuss various photon interactions with matter by describing the interaction, relation to atomic number, photon energy and part density, and their applications in diagnostic radiology.
	21.17 Discuss relationships of wavelength and frequency to beam characteristics.
	21.18 Discuss the clinical significance of the photoelectric and modified scattering interactions in diagnostic imaging.
22.0	Demonstrate an understanding of the structure and function of the human body including the immune system and chemical composition of the body. –The student will be able to:
	22.01 Describe the chemical composition of the human body.
	22.02 Identify cell structure and elements of genetic control.
	22.03 Explain the essentials of human metabolism.
	22.04 Differentiate between nonspecific defenses and specific immunity.
	22.05 Explain antibody production and function.
	22.06 List the different types and functions of T- and B-cells and explain their functions.
23.0	Demonstrate an understanding of the integral aspects of radiation biology required of a radiographer. –The student will be able to:
	23.01 Differentiate between ionic and covalent molecular bonds.
	23.02 Describe principles of cellular biology.
	23.03 Identify sources of electromagnetic and particulate ionizing radiations.
	23.04 Discriminate between direct and indirect ionizing radiation.
	23.05 Discriminate between the direct and indirect effects of radiation.
	23.06 Identify sources of radiation exposure.
	23.07 Describe radiation-induced chemical reactions and potential biologic damage.

	23.08 Evaluate factors influencing radiobiologic/biophysical events at the cellular and subcellular level.
	23.09 Identify methods to measure radiation response.
	23.10 Describe physical, chemical and biologic factors influencing radiation response of cells and tissues.
	23.11 Explain factors influencing radiosensitivity.
	23.12 Recognize the clinical significance of lethal dose (LD).
	23.13 Identify specific cells from most radiosensitive to least radiosensitive.
	23.14 Employ dose response curves to study the relationship between radiation dose levels and the degree of biologic response.
	23.15 Examine effects of limited vs. total body exposure.
	23.16 Relate short-term and long-term effects as a consequence of high and low radiation doses.
	23.17 Differentiate between somatic and genetic radiation effects and discuss specific diseases or syndromes associated with them.
	23.18 Discuss stochastic (probabilistic) and nonstochastic (deterministic) effects.
	23.19 Discuss embryo and fetal effects of radiation exposure.
	23.20 Discuss risk estimates for radiation-induced malignancies.
	23.21 Discuss acute radiation syndromes.
24.0	Convey the importance for proper radiation protection and the precautions radiographers should take to prevent unnecessary exposure to themselves and patients. –The student will be able to:
	24.01 Identify and justify the need to minimize unnecessary radiation exposure of humans.
	24.02 Distinguish between somatic and genetic radiation effects.
	24.03 Differentiate between the stochastic (probabilistic) and nonstochastic (deterministic) effects of radiation exposure.
	24.04 Explain the objectives of a radiation protection program.
	24.05 Define radiation and radioactivity units of measurement.
	24.06 Identify effective dose limits (EDL) for occupational and nonoccupational radiation exposure.
	24.07 Describe the ALARA concept.
	24.08 Identify the basis for occupational exposure limits.

24.09	Distinguish between perceived risk and comparable risk.
24.10	Describe the concept of the negligible individual dose (NID).
24.11	Identify ionizing radiation sources from natural and man-made sources.
24.12	Comply with legal and ethical radiation protection responsibilities of radiation workers.
24.13	Describe the relationship between irradiated area and effective dose.
24.14	Describe the theory and operation of radiation detection devices.
24.15	Identify appropriate applications and limitations for each radiation detection device.
24.16	Describe how isoexposure curves are used for radiation protection.
24.17	Identify performance standards for beam-limiting devices.
24.18	Describe procedures used to verify performance standards for equipment and indicate the potential consequences if the performance standards fail.
24.19	Describe the operation of various interlocking systems for equipment and indicate potential consequences of interlock system failure.
24.20	Identify conditions and locations evaluated in an area survey for radiation protection.
24.21	Distinguish between controlled and non-controlled areas and list acceptable exposure levels.
24.22	Describe “Radiation Area” signs and identify appropriate placement sites.
24.23	Describe the function of federal, state and local regulations governing radiation protection practices.
24.24	Describe the requirements for and responsibilities of a radiation safety officer.
24.25	Express the need and importance of personnel monitoring for radiation workers.
24.26	Describe personnel monitoring devices, including applications, advantages and limitations for each device.
24.27	Interpret personnel monitoring reports.
24.28	Compare values for individual effective dose limits for occupational radiation exposures (annual and lifetime).
24.29	Identify anatomical structures that are considered critical for potential late effects of whole body irradiation exposure.
24.30	Identify effective dose limits for the embryo and fetus in occupationally exposed women.
24.31	Distinguish between primary and secondary radiation barriers.

24.32	Demonstrate how the operation of various x-ray and ancillary equipment influences radiation safety and describe the potential consequences of equipment failure.
24.33	Perform calculations of exposure with varying time, distance and shielding.
24.34	Discuss the relationship between workload, energy, half-value layer (HVL), tenth-value layer (TVL), use factor and shielding design.
24.35	Identify emergency procedures to be followed during failures of x-ray equipment.
24.36	Demonstrate how time, distance and shielding can be manipulated to keep radiation exposures to a minimum.
24.37	Explain the relationship of beam-limiting devices to patient radiation protection.
24.38	Discuss added and inherent filtration in terms of the effect on patient dosage.
24.39	Explain the purpose and importance of patient shielding.
24.40	Identify various types of patient shielding and state the advantages and disadvantages of each type.
24.41	Use the appropriate method of shielding for a given radiographic procedure.
24.42	Explain the relationship of exposure factors to patient dosage.
24.43	Explain how patient position affects dose to radiosensitive organs.
24.44	Identify the appropriate image receptor that will result in an optimum diagnostic image with the minimum radiation exposure to the patient.
24.45	Select the immobilization techniques used to eliminate voluntary motion.
24.46	Describe the minimum source-to-tabletop distances for fixed and mobile fluoroscopic devices.
24.47	Apply safety factors for the patient, health care personnel and family members in the room during radiographic procedures.

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Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Radiographers provide patient services using imaging modalities, as directed by physicians qualified to order and/or perform radiologic procedures. Radiographers usually provide patient care essential to radiologic procedures, including exercising judgment when performing medical imaging procedures. When providing patient services, the radiographer adheres to the principles of radiation protection for the patient, self, and others.

Radiographers accurately demonstrate anatomical structures on various imaging receptors by knowledge of anatomy, positioning, radiographic technique, and radiation protection. Radiographers must also be able to recognize emergency patient conditions and initiate lifesaving first aid. Additional duties may include performing quality assurance, processing film, and keeping patient records. Radiographers may be required to perform some of these duties at the patient's bedside or in the operating room.

The policies and process by which students receive clinical education shall be published and made known to all concerned in order to avoid practices in which students are substituted for paid staff. Students shall not take the responsibility or the place of qualified staff. After demonstrating competency, students may be permitted to perform procedures with indirect supervision. Unsatisfactory radiographs shall be repeated only in the presence of a qualified radiographer.

Students are encouraged to become members of their appropriate professional organizations such as the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its' local affiliate.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Radiation Therapy**
Career Cluster: **Health Science**

AS	
CIP Number	1351090701
Program Type	College Credit
Standard Length	77 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-1124 Radiation Therapists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as Radiation Therapy Technologist SOC Code 29-1124 (Radiation Therapists) or to provide supplemental training for persons previously or presently employed in these occupations.

The content includes but is not limited to performing radiation therapy procedures with skill and understanding to practice the art and science of radiation therapy technology; to administer the prescribed radiation therapy treatments of the highest caliber, thereby providing the patient treatments of the highest quality and accuracy; to become members of the health care team that contributes to the physical and psychological comfort of the patient, to provide radiation protection to the patient, self and health care team; to work with the health care team to improve radiotherapeutic health care in the hospital and community; and to understand the importance of maintaining membership in the professional organizations and keeping abreast of the changes in the field of radiation therapy.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 77 credit hours.

Regulated Programs

The program must be accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 900, Chicago, Illinois 60606-2901 (312) 704-5300, or by the Southern Association of Colleges and Schools to enable graduates to become candidates for examination in Radiation Therapy Technology by the American Registry of Radiologic Technologists. It may also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible for licensure in Florida as a certified Radiation Therapy Technologists. As specified in Chapter 468 Part IV F.S. and Chapter 64E-3 F.A.C.

Students completing the program will be eligible to make application to take the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612/687-0048)

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate the proficiency in the skills and knowledge required of clinical practice.
02.0 Convey an understanding of the ethics that impact radiation therapy at both the state and federal levels.
03.0 Demonstrate proficiency in imaging and processing in radiation oncology.
04.0 Demonstrate a basic understanding of laws related to radiation therapy at both the state and federal levels.
05.0 Demonstrate a functional knowledge of medical terminology required in radiation therapy.
06.0 Demonstrate knowledge of procedures and techniques related to the resolution of operational issues in radiation therapy.
07.0 Demonstrate knowledge of the foundational principles and practices of radiation therapy.
08.0 Demonstrate knowledge of essential concepts related to pathophysiology.
09.0 Demonstrate knowledge of the fundamental principles of radiation therapy.
10.0 Demonstrate knowledge of the principles of radiation therapy as it relates to the management of neoplastic disease.
11.0 Demonstrate the skills, procedures and knowledge required for effective quality management.
12.0 Demonstrate an understanding of the integral aspects of radiation biology required of a radiation therapist.
13.0 Demonstrate proficient knowledge of physics pertinent to the understanding of radiations used in the clinical setting.
14.0 Demonstrate the principles of radiation protection and safety for the radiation therapist.
15.0 Demonstrate knowledge of the foundational concepts and competencies in assessment and evaluation of the patient for service delivery.
16.0 Demonstrate an advanced understanding of the concepts and theories of radiation therapy physics.
17.0 Demonstrate proficiency in research methods and information literacy.
18.0 Demonstrate the skills, techniques and knowledge required for medical imaging methods to capture sectional anatomy.
19.0 Demonstrate the skills, techniques and knowledge required for the clinical planning of patient treatment.

Florida Department of Education
Student Performance Standards

Program Title: **Radiation Therapy**
CIP Number: **1351090701**
Program Length: **77 credit hours**
SOC Code(s): **29-1124**

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The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate the proficiency in the skills and knowledge required of clinical practice.- The student will be able to:
01.01	Operate within the radiation therapy scope of practice.
01.02	Demonstrate values and attitudes congruent with the profession's standards and ethics.
01.03	Formulate priorities in daily clinical practice.
01.04	Apply concepts of teamwork.
01.05	Adapt to dynamic clinical situations.
01.06	Establish patient-centered, clinically effective service delivery strategies.
01.07	Deliver a prescribed course of treatment adhering to acceptable departmental, institutional, governmental and professional standards.
01.08	Assess the patient's status and condition in order to deliver a prescribed course of radiation therapy.
01.09	Use critical thinking for accurate treatment delivery.
01.10	Demonstrate the principles of radiation protection.
01.11	Monitor tumor lethal dose and normal tissue tolerance dose.
01.12	Evaluate the clinical significance of the treatment parameters as prescribed to suspend the treatment process.
01.13	Apply the principles of total quality management.

01.14	Detect equipment malfunctions and take appropriate action.
01.15	Construct and prepare immobilization, beam alignment and beam modification devices.
01.16	Design, evaluate and implement treatment plans.
01.17	Validate manual and computer dosimetric calculations.
01.18	Perform simulation, localization and therapeutic procedures as they pertain to radiation therapy in accordance with national patient safety standards.
01.19	Demonstrate appropriate and effective communication.
01.20	Demonstrate safe, ethical and legal practices.
01.21	Evaluate the clinical significance of the patient's uniqueness to formulate appropriate actions.
01.22	Apply appropriate safety, transfer and immobilization principles.
01.23	Apply concepts of teaching and learning theories in design, implementation and evaluation in the education of patient, family, colleagues and the community.
01.24	Describe programs designed to promote and maintain health and wellness to meet patient needs.
01.25	Demonstrate appropriate interaction with patients and patients' family and friends.
01.26	Assess patient side effects and complications to create an interdisciplinary management strategy that fosters prevention, healing and comfort.
01.27	Document all aspects of patient care and management in the appropriate record.
01.28	Document and communicate errors and discrepancies in accordance with institutional and national quality management procedures.
01.29	Initiate life support procedures as necessary.
01.30	Document knowledge of the institution's procedures in response to emergencies, disasters and accidents.
01.31	Apply strategies that ensure professional development at a level of clinical practice consistent with acceptable standards.
01.32	Demonstrate quality assurance procedures for all treatment delivery equipment and accessories.
01.33	Evaluate outcomes to continuously improve radiation therapy services.
01.34	Incorporate Health Insurance Portability and Accountability Act (HIPAA) requirements into clinical practice.
01.35	Interpret treatment plan prior to treatment.
02.0	Convey an understanding of the ethics that impact radiation therapy at both the state and federal levels. -The student will be able to:

	02.01	Identify theories and principles that guide ethical decision making for practice situations.
	02.02	Define practice situations that carry high potential for dilemmas that require ethical scrutiny.
	02.03	Discuss basic ethical duties of health care providers.
	02.04	Demonstrate an awareness of and sensitivity to various cultural and ethnic differences among various client groups.
	02.05	Discuss the concept of patient advocacy in support of patients' rights.
	02.06	Discuss ethical theories and models.
	02.07	Discuss the radiation therapy scope of practice, code of ethics and practice standards.
	02.08	Examine concepts of personal honesty, integrity, accountability and professional compassion as ethical imperatives in professional practice.
	02.09	Differentiate between distributive, compensatory and retributive justice.
	02.10	Differentiate between provider and patient relationships.
	02.11	Discuss the duty of the radiation therapist to take responsibility for actions and decisions.
	02.12	Discuss the elements of an informed consent.
	02.13	Discuss standards of disclosure.
	02.14	Analyze issues related to the use and flow of patient information to determine confidentiality.
	02.15	Explain ethical issues related to different age groups.
	02.16	Identify current ethical issues in health care.
	02.17	Demonstrate application of a system of examination, clarification, determination, the doctrine of informed consent and other issues related to patient rights.
	02.18	Explain ethical issues related to the profession.
	02.19	Discuss the relationship between ethics and health care policy.
	02.20	Examine ethical issues arising daily in a radiation therapy department.
03.0	Demonstrate proficiency in imaging and processing in radiation oncology. -The student will be able to:	
	03.01	Define terminology associated with digital imaging systems.
	03.02	Describe the various types of digital receptors.

03.03	Discuss the fundamentals of digital imaging.
03.04	Discuss image acquisition.
03.05	Describe the evaluative criteria for digital imaging detectors.
03.06	Describe the histogram and the process or histogram analysis as it relates to automatic rescaling and determining an exposure indicator.
03.07	Identify the exposure indices for digital imaging receptors.
03.08	Discuss the response of digital imaging systems to background and scatter radiation.
03.09	Use appropriate means of scatter control.
03.10	Explain methods to avoid histogram analysis errors.
03.11	Describe image processing employed for digital images.
03.12	Associate the impact of image processing parameters to the image appearance.
03.13	Associate the effects of inappropriate processing on image clarity or conspicuity.
03.14	Describe and apply the fundamental physical principles of exposure for digital detectors.
03.15	Describe the selection of technical factors to ensure appropriate receptor exposure levels for digital detectors.
03.16	Describe the conditions that cause quantum mottle in a digital image.
03.17	Explain methods to avoid poor quality images.
03.18	Examine the potential impact of digital imaging systems on patient exposure and methods of practicing the as low as reasonably achievable (ALARA) concept with digital systems.
03.19	Describe picture archiving and communications system (PACS) and its function.
03.20	Identify components of a PACS system.
03.21	Describe patient benefits gained through the use of telemedicine.
03.22	Identify modality types that may be incorporated into a PACS.
03.23	Define digital imaging and communications in medicine (DICOM).
03.24	Describe data flow for a DICOM image from an imaging modality to a PACS.
03.25	Describe HIPAA concerns with electronic information.

03.26	Identify common problems associated with retrieving/viewing images.	
03.27	Describe the components and the operation of a conventional simulator.	
03.28	Analyze relationships of factors affecting image contrast, density and resolution to determine optimal image quality.	
03.29	Apply techniques to enhance image details and reduce image distortion.	
03.30	Determine artifact types, cause and preventive measures.	
03.31	Explain the basic principles of image formation for each of the following modalities: magnetic resonance (MR), ultrasound imaging and nuclear medicine.	
03.32	Describe and explain functions of the components of the computed tomography (CT) imaging system.	
03.33	Differentiate between conventional and spiral/helical CT scanning.	
03.34	List the CT computer data processing steps.	
03.35	Name the functions of the array processor used for image reconstruction.	
03.36	Explain the difference between reconstructing and reformatting an image	
03.37	Describe the application of the following terms to CT:	
	03.37.01	Pixel.
	03.37.02	Matrix.
	03.37.03	Voxel.
	03.37.04	Linear attenuation coefficient.
	03.37.05	CT/Hounsfield number.
	03.37.06	Partial volume averaging.
	03.37.07	Window width (ww) and window level (wl).
	03.37.08	Spatial resolution.
	03.37.09	Contrast resolution.
	03.37.10	Noise.
	03.37.11	Annotation.

	03.37.12	Region of interest (ROI).
	03.37.13	Standard vs. volumetric data acquisition.
03.38	Identify the types and appearance of artifacts most commonly affecting CT images.	
03.39	Explain how artifacts can be reduced or eliminated.	
03.40	Describe current data storage techniques used in CT.	
03.41	Name the radiation protection devices that can be used to reduce patient dose in CT and describe the correct application of each.	
04.0	Demonstrate a basic understanding of laws related to radiation therapy at both the state and federal levels. -The student will be able to:	
04.01	Apply concepts related to social, political, economic and historical issues to analyze the different sources of law.	
04.02	List the steps in a civil legal procedure and identify the potential role of a radiation therapist.	
04.03	Assess the role of effective communication skills in reducing legal action.	
04.04	Analyze negligence related to clinical practice issues of simulation, treatment delivery, patient assessment, patient education and quality assurance to determine if negligence is present.	
04.05	Examine the role of the radiation therapist in the informed consent process, patient rights and practice standards.	
04.06	Analyze safety programs to reduce patient injury.	
04.07	Examine the importance of documentation and maintenance of clinical practice records.	
04.08	Formulate a risk management program.	
04.09	Analyze the role of code of ethics, radiation therapy scope of practice and radiation therapy practice standards as guides to assess the appropriateness of professional actions.	
04.10	Discuss the practice of lifelong learning in maintaining professional competence	
05.0	Demonstrate a functional knowledge of medical terminology required in radiation therapy. -The student will be able to:	
05.01	Identify primary language sources from which medical terms are derived.	
05.02	Define medical terms according to basic elements.	
05.03	Interpret language, abbreviations and symbols in the medical record.	
06.0	Demonstrate knowledge of procedures and techniques related to the resolution of operational issues in radiation therapy. -The student will be able to:	
06.01	Identify CQI opportunities.	

	06.02 Explain the differences between CQI and QA.
	06.03 Select appropriate CQI tools for specific situations.
	06.04 Apply CQI principles to specific situations.
	06.05 Discuss human resources' role in the work environment.
	06.06 Discuss the need for organizational and departmental accreditation.
	06.07 Recognize accreditation effects on radiation therapy operations.
	06.08 Use appropriate current procedural terminology (CPT) codes for professional and technical charges.
	06.09 Summarize the various types of insurance and the mechanisms necessary for approval of care.
	06.10 Discuss reimbursement for radiation therapy services.
	06.11 Compare the components and methods of developing and managing a departmental budget.
07.0	Demonstrate knowledge of the foundational principles and practices of radiation therapy. -The student will be able to:
	07.01 Discuss the policies and procedures of the educational program.
	07.02 Discuss the policies and procedures of clinical education settings.
	07.03 Identify the responsibilities of a radiation therapy student.
	07.04 Use library/Internet resources pertinent to radiation oncology.
	07.05 Discuss maintaining patient and student confidentiality.
	07.06 Analyze the importance of multidisciplinary care of cancer patients.
	07.07 Discuss the philosophy and mission of health care delivery systems and educational programs.
	07.08 Incorporate key terms used in the principles and practice of radiation therapy.
	07.09 Identify the contents/sections of the patient's records.
	07.10 Explain radiation safety procedures for radiation therapy.
	07.11 Explain health safety procedures for personnel and patients.
	07.12 Differentiate between accreditation, credentialing, certification, registration, licensure and regulations.

	07.13	Explain the purposes, functions and activities of international, national, state and local professional organizations.
	07.14	Discuss the importance of professional and community commitment.
	07.15	Discuss the radiation therapist scope of practice, practice standards and professional code of ethics.
	07.16	Discuss the benefits of continuing education as related to improving the quality of patient care, professional development and personal enhancement.
	07.17	Discuss career advancement and opportunities for the radiation therapist.
08.0	Demonstrate knowledge of essential concepts related to pathophysiology.- The student will be able to:	
	08.01	Describe the physiological response in inflammation and cell injury due to pathological insult.
	08.02	Assess the predictive factors, including genetics, lifestyles, age and environment as they influence the development of cancer and associated diseases.
	08.03	Compare the body's response to hereditary, lifestyle, age and environmental factors.
	08.04	Given a specific oncologic-related disease, determine probable diagnostic, prognostic, staging, grading and the rationale for the appropriate therapeutic pathway.
	08.05	Given the histology of a neoplasm, determine the tumor characteristics.
	08.06	Given a common disease, anticipate the effects of the disease on the oncologic patient.
09.0	Demonstrate knowledge of the fundamental principles of radiation therapy. -The student will be able to:	
	09.01	Given diagnostic information about a particular cancer, determine the appropriateness of using radiation therapy as a primary treatment modality.
	09.02	Determine the medical and patient information necessary to develop a radiation therapy treatment plan.
	09.03	Determine the appropriate treatment energy for any given tumor type or location.
	09.04	Differentiate between beam modifiers and their uses with a variety of treatment energies.
	09.05	Determine the appropriate treatment setup aid, immobilization technique and beam modifier for a given treatment technique.
	09.06	Identify inconsistencies between treatment prescription and treatment plan.
	09.07	Develop a conventional simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
	09.08	Develop a CT simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
	09.09	Critique treatment images in relation to simulation images.
	09.10	Discuss the radiation therapist scope of practice and practice standards.

10.0	Demonstrate knowledge of the principles of radiation therapy as it relates to the management of neoplastic disease.- The student will be able to:
10.01	Distinguishes tumor histology to determine pathways associated with cancer and neoplastic disease.
10.02	Examine the role of surgical, radiation and medical oncology to include immunotherapy (biological therapy) and personalized medicine in the management of neoplastic disease.
10.03	Discuss multidisciplinary emerging approaches to neoplastic disease management.
10.04	Discuss the role of radiation therapy in the management of all patient populations with benign and malignant diseases.
10.05	Discuss epidemiologic and etiologic information pertinent to each neoplastic site.
10.06	Discuss the clinical presentation for each anatomic neoplastic site.
10.07	Discuss preventive methods/screening tools associated with each neoplastic site.
10.08	Explain detection, diagnosis, grading and staging systems for each neoplastic site.
10.09	Implement the principles and practice of simulation to prepare a patient for treatment.
10.10	Apply the parameters of treatment field design and arrangement used to treat neoplastic diseases.
10.11	Examine the role of radiation therapy in palliative disease management.
10.12	Identify the treatment regimens and fractionalization schemes used in palliative disease management.
10.13	Describe the role of radiation therapy in the management of oncology emergencies.
11.0	Demonstrate the skills, procedures and knowledge required for effective quality management. The student will be able to:
11.01	Discuss the components of a quality management (QM) program in developing a culture of safety in radiation oncology.
11.02	Discuss the purpose, function and member’s role on a quality management team.
11.03	Explain federal, state and institutional accreditation standards and reporting regulations for quality management.
11.04	Examine outcomes of quality management in radiation oncology.
11.05	Explain the purpose, procedures and frequency for manual and electronic treatment documentation.
11.06	Identify errors in treatment documentation.
11.07	Describe the procedure for assuring accuracy of manual and electronic records.
11.08	Examine the purpose and function of record and verify systems.

11.09	Examine the patient chart in terms of medical and legal issues.
11.10	Discuss the significance of treatment outcomes for patient care, education and research in radiation oncology.
11.11	Discuss the quality indicators to evaluate patient care areas.
11.12	Explain the purpose, procedure and frequency for all QA and QM procedures in a radiation therapy department.
11.13	Evaluate how the outcomes of QA and QM procedures impact patient care, education and research.
11.14	Examine statistical reporting available through quality assurance computerization.
11.15	Perform quality measures for computerized operation, data collection and reporting.
11.16	Determine sources of malfunction on the treatment and simulation/localization units.
11.17	Distinguish between safe and hazardous equipment operation.
11.18	Comply with acceptable quality limits for treatment operation.
11.19	Identify the source of error and determine the effect on treatment delivery, education and research.
11.20	Differentiate between quality management programs.
11.21	Discuss the importance of patient education in the quality management process.
11.22	Discuss the importance of proper patient identification and treatment field documentation.
11.23	Discuss aspects of clinical evaluation, therapeutic decision-making and informed
11.24	Identify the key aspects of delivering a precise prescribed treatment dose.
11.25	Discuss quality control procedures and recommended tolerances for simulation equipment, megavoltage treatment units and treatment planning systems.
11.26	Discuss quality control procedures and recommended tolerances for the safe handling of brachytherapy sources and remote after loading equipment.
11.27	Defend the rational for near miss and error report.
11.28	Critique the safety in radiation oncology.
12.0	Demonstrate an understanding of the integral aspects of radiation biology required of a radiation therapist. . - The student will be able to:
12.01	Integrate laws and principles of radiation biology to the clinical practice of radiation therapy.
12.02	Identify radiosensitive components of the cell.

12.03	Distinguish between units of radiation quantities and radiobiologic measures.
12.04	Differentiate between direct and indirect effects of ionizing radiation.
12.05	Explain factors affecting relative biological effectiveness (RBE).
12.06	Discuss the effects of electromagnetic and particulate radiations on cellular interactions.
12.07	Evaluate factors influencing radiobiologic/biophysical events at the cellular and subcellular level.
12.08	Determine biologic damage due to radiation-induced chemical reactions.
12.09	Discuss radiation effects on the cell cycle.
12.10	Compare somatic and genetic effects of radiation.
12.11	Describe factors influencing radiation response of cells and tissues.
12.12	Discuss the laws of Bergonié and Tribondeau.
12.13	Interpret cell survival curves to determine radiosensitivity under numerous conditions.
12.14	Discuss the relationship of radiation quality and dose to systemic responses.
12.15	Describe radiation syndromes and factors influencing response.
12.16	Differentiate between linear, nonlinear, and threshold and nonthreshold dose response curves.
12.17	Describe the 5 Rs of radiobiology.
12.18	Describe the clinical significance of TD 5/5,TD 50/5 and QUANTEC.
12.19	Discuss the concept of LD50/30.
12.20	Compare the relationship of time, dose, fractionation, volume, distance and site to radiation effects.
12.21	Discuss the use of radiation response modifiers.
12.22	Describe the influence of chemotherapy and hyperthermia alone and in combination with radiation therapy.
13.0	Demonstrate proficient knowledge of physics pertinent to the understanding of radiations used in the clinical setting. .- The student will be able to:
13.01	Define the fundamental units of the English, metric and Système International d'Unites (SI) systems.
13.02	Calculate various unit conversions.

13.03	Demonstrate applications of the general principles that relate to inertia, work, energy and momentum.
13.04	Describe Bohr's theory of atomic structure.
13.05	Compare the characteristics and functions of a proton, neutron and electron.
13.06	Discuss the energy levels of the atom.
13.07	Define the terms relating to atomic nomenclature.
13.08	Compare covalent bonding and ionic bonding.
13.09	Describe the process of ionization.
13.10	Differentiate between the characteristics of a mixture, substance and element.
13.11	Classify the characteristics of an element using the periodic table.
13.12	Compare the characteristics of a molecule and compound.
13.13	Describe the nature of light.
13.14	Explain the relationship between wavelength, frequency and velocity.
13.15	Differentiate between the radiations of the electromagnetic (EM) spectrum.
13.16	Explain the relationship of energy and frequency to Planck's constant.
13.17	Distinguish between electrical charge and electrical field.
13.18	Describe the methods of electrification.
13.19	Explain the laws of electrostatics and their application.
13.20	Describe the properties and laws of magnetism.
13.21	Explain the electronic spin of an element to its potential magnetic properties.
13.22	Describe the principle of magnetic induction.
13.23	Define potential difference, current, resistance, circuit and electric power.
13.24	Compare the characteristics of direct and alternating currents.
13.25	Compare electrical measuring devices.

	13.26 Discuss electrical protective devices.
	13.27 Discuss the interaction between electric and magnetic fields.
	13.28 Describe the characteristics and functions of a cathode and rotating anode.
	13.29 Describe the construction and function of tube housing.
	13.30 Identify the parts of an x-ray tube.
	13.31 Determine heat units and cooling characteristics of x-ray tube housings.
	13.32 Propose methods to extend tube life.
	13.33 Discuss application and components of automatic exposure devices.
	13.34 State the principles of x-ray production.
	13.35 Compare the production of bremsstrahlung with the production of characteristic radiations.
	13.36 Compare various photon interactions in terms of description of interaction, relation to atomic number and applications.
	13.37 Discuss relationships of wavelength and frequency to beam characteristics.
	13.38 Define units of radiation measurement and provide an example of its application.
14.0	Demonstrate the principles of radiation protection and safety for the radiation therapist. .- The student will be able to:
	14.01 Distinguish between somatic and genetic effects of radiation exposure.
	14.02 Differentiate between stochastic and nonstochastic effects of radiation exposure.
	14.03 Defend the concept of as low as reasonably achievable (ALARA).
	14.04 Discuss the concept of negligible individual risk.
	14.05 Describe the legal and ethical radiation protection responsibilities of radiation workers.
	14.06 Use appropriate terminology and units when discussing radiation protection issues.
	14.07 Select the correct units of radiation for exposure, absorbed dose, dose equivalence and radioactivity.
	14.08 Discuss the interrelationship between relative biological effectiveness and quality factors.
	14.09 Explain the theory, operation, applications and limitations of radiation detection devices.

14.10	State the authority, boundaries and regulations of the state and national regulatory agencies.
14.11	Discuss the requirements and responsibilities of the radiation safety officer.
14.12	Compare the various methods used for personnel monitoring.
14.13	State the exposure limits for occupational and nonoccupational individuals.
14.14	Explain techniques used to reduce unnecessary dose to the patient.
14.15	Develop an emergency action plan for equipment failure.
14.16	Discuss the principles of radiation protection room design factors.
14.17	Describe the elements of a radiation protection survey for an inpatient undergoing brachytherapy.
14.18	Calculate exposure doses based on time, distance and type of radioactivity.
14.19	Describe the procedure for a hot lab room survey.
14.20	Describe procedures to receive and ship radioactive materials.
14.21	Evaluate a record keeping system for radioactive sources to ensure inclusion of all required elements.
15.0	Demonstrate knowledge of the foundational concepts and competencies in assessment and evaluation of the patient for service delivery. .- The student will be able to:
15.01	Differentiate between the roles and responsibilities of health care team members treating cancer patients.
15.02	Demonstrate applications of professional self-care.
15.03	Examine different psychological aspects of dying.
15.04	Explain the dynamics of communicating with the cancer patient and family.
15.05	Recognize radiation side effects and complications and select the appropriate medical intervention.
15.06	Identify factors that influence a patient’s emotional responses.
15.07	Formulate content for answers to questions frequently asked by patients.
15.08	Assess the physical condition of the patient before, during and after treatment delivery.
15.09	Demonstrate application of the principles of health safety.
15.10	Discuss the principles of medication administration.

	15.11	Recognize common medications and explain their actions and side effects.
	15.12	Evaluate a patient for an adverse reaction to medication.
	15.13	Describe emergency response procedures.
	15.14	Describe the proper care of patients with tubes.
	15.15	Provide patient education for medical procedures.
	15.16	Assess the patient before, during and after brachytherapy procedures.
	15.17	Demonstrate the application of the principles of radiation protection during brachytherapy procedures.
	15.18	Assess the nutritional status of the cancer patient to provide nutritional education or intervention.
	15.19	Demonstrate proper use of the principles of patient safety and transfer.
	15.20	Provide appropriate patient education following patient assessment.
	15.21	Select patient education materials appropriate for patient needs.
	15.22	Compare conventional and integrative medicine.
16.0	Demonstrate an advanced understanding of the concepts and theories of radiation therapy physics. .- The student will be able to:	
	16.01	Compare and contrast atomic structure and composition among the elements, including but not limited to particles (their location, energy level and charge), atomic number and mass number.
	16.02	Compare isotope, isotone, isobar and isomer.
	16.03	Discuss nuclear stability and types of radioactive decay.
	16.04	Categorize the four fundamental forces of nature.
	16.05	Differentiate between electromagnetic (EM) radiation and their characteristics.
	16.06	Describe the processes of ionization and excitation.
	16.07	Calculate radioactivity, decay constant, activity and half-life, average life and attenuation requirements for commonly used isotopes in radiation therapy.
	16.08	Differentiate between artificially produced and naturally occurring therapeutic nuclides.
	16.09	Identify the radioactive series and the decay schemes for commonly used radiation therapy nuclides.
	16.10	Explain the various forms of radioactive equilibrium.

16.11	Identify nuclear reactions by recognizing the projectile and radiation emitted.
16.12	Define fission and fusion.
16.13	Discuss the activation of nuclides in terms of yield, probability, activity growth and saturation activity.
16.14	Describe methods of artificial production of radionuclides.
16.15	Describe x-ray production for linear accelerators.
16.16	Compare and contrast the factors that influence x-ray production and output.
16.17	Compare and contrast the energy ranges and characteristics of the various radiation therapy modalities (Grenz-ray through megavoltage).
16.18	Discuss all components and function in a linear accelerator.
16.19	Discuss methods of x-ray production in alternate therapy units (e.g., tomotherapy, stereotactic radiosurgery, etc.)
16.20	Compare the characteristics of other radiation therapy beams (cyclotron and other accelerated particles).
16.21	State the gamma energies and average gamma energy of cobalt 60 (60Co).
16.22	Describe the basic components of a 60Co unit.
16.23	Compare the characteristics of an isotope beam and an x-ray beam.
16.24	Explain linear energy transfer (LET).
16.25	Compare photon interactions with matter and classify radiations produced by direct and indirect ionization.
16.26	Explain major influencing factors of photon beam attenuation.
16.27	Describe the parameters of narrow beam geometry used in the measurement of attenuation.
16.28	Plot heteroenergetic and monoenergetic beam attenuation data.
16.29	Calculate half-value layer (HVL).
16.30	Calculate the *homogeneity coefficient*.
16.31	Calculate attenuation requirements for beam modification devices.
16.32	Discuss activation of clinical accessories and alternate shielding materials due to photodisentigration.
16.33	Explain charged particle interactions with matter, describing dose deposition, energy loss and shielding requirements.

	16.34	Define mass stopping power.
	16.35	Describe a Bragg curve.
	16.36	Discuss the purpose and importance of the National Institute of Standards and Technology (NIST).
	16.37	Discuss the purpose and importance of the Accredited Dosimetry Calibration Labs (ADCL).
	16.38	Demonstrate use of the appropriate type of radiation detector for given clinical applications.
	16.39	Calculate correction factors for chamber calibration, temperature, pressure and other factors used to correct a chamber reading.
	16.40	Discuss protocols used for external beam calibration.
	16.41	Analyze spot check data to make appropriate judgment decisions regarding machine treatment parameters. Describe the quality of a gamma-ray (γ) beam in terms of HVL, γ energy or mean γ energy/nuclide of origin.
	16.42	Describe beam filtration for the various external beam modalities, including but not limited to purpose, types of filters and their construction, energy considerations, inherent vs. added filtration and effect on HVL.
	16.43	Calculate the approximate mean energy of a megavoltage beam.
	16.44	Compare absorbed dose vs. exposure.
	16.45	Discuss the relationship between kinetic energy released in the medium (KERMA), exposure and absorbed dose.
	16.46	Calculate air dose to absorbed dose conversions in tissue, including but not limited to, energy considerations, applicable conversion factors, necessary instrumentation and methods.
	16.47	Discuss the clinical importance of phantom material and size when applying the Bragg-Gray Cavity Theory.
	16.48	Critique how dose distribution measured in a phantom is used to predict dose distribution in a patient.
	16.49	Compare the characteristics and composition of various phantoms.
	16.50	Compare source-skin distance (SSD) and isocentric methods of calibration.
17.0	Demonstrate proficiency in research methods and information literacy. .- The student will be able to:	
	17.01	Analyze research articles to determine the accuracy and validity of findings.
	17.02	Integrate information literacy concepts into a research project.
	17.03	Critique research projects to determine appropriateness and usefulness to the profession.
18.0	Demonstrate the skills, techniques and knowledge required for medical imaging methods to capture sectional anatomy. .- The student will be able to:	
	18.01	Relate the importance of imaging with computed tomography, magnetic resonance and PET-CT in radiation therapy.

	18.02	Differentiate between sagittal, coronal and axial planes of the body.
	18.03	Review the principles of imaging for imaging modalities using relevant terminology.
	18.04	Compare the imaging modalities for application to radiation therapy.
	18.05	Identify normal anatomical structures on sectional images.
	18.06	Identify topographic anatomy used to locate underlying internal structures.
	18.07	Describe image formation and orientation for computed tomography, magnetic resonance, positron emission tomography, ultrasonography and image fusion.
19.0	Demonstrate the skills, techniques and knowledge required for the clinical planning of patient treatment. .- The student will be able to:	
	19.01	Compare photon isodose curves for clinically relevant photon beams.
	19.02	Describe the general influencing factors that distinguish various isodose curves.
	19.03	Determine internal and external patient factors that influence a beam's distribution and apply isodose correction methods.
	19.04	Describe methods of determining a patient's external contour, definition of internal structures and volumes of interest used in treatment planning.
	19.05	Identify organs and tissues at risk and their dose limitations using published tolerance dose tables.
	19.06	Describe how biologic effective dose is influenced by prescription and treatment variables.
	19.07	Compare fractionation schemes.
	19.08	Discuss the integral dose concept.
	19.09	Use appropriate factors for treatment calculations.
	19.10	Describe the interrelationships of the various factors used in treatment calculations.
	19.11	Perform dose calculations for external photon and electron beam treatments for all clinical variations.
	19.12	Calculate the absorbed dose to off-axis points of interest.
	19.13	Compare absorbed doses within a treatment volume with beam variations.
	19.14	Explain algorithms incorporated into treatment planning computers.
	19.15	Describe the clinical applications for moving beam techniques.
	19.16	Describe the past pointing technique.

19.17	Calculate equivalent squares using various methods and consider the limitations of each.
19.18	Describe the effect of asymmetric beam collimation on dose distribution.
19.19	Describe methods for determining dose distribution at points outside the treatment field.
19.20	Calculate dose under a block.
19.21	Evaluate a variety of treatment plans for clinical use.
19.22	Identify all possible techniques that may be employed to clinically match adjacent fields.
19.23	Describe the multiple junction shift methods.
19.24	Examine hot and cold regions that occur with the various matching methods, and describe the methods used to eliminate them.
19.25	Describe procedures for permanent record and legal documentation of matching fields.
19.26	Analyze dose distributions to determine the need for beam modifiers.
19.27	Compare various methods of tissue compensation and the dosimetric impact.
19.28	Examine the fabrication of 2-D and 3-D compensators.
19.29	Construct manual and computerized isodose curves.
19.30	Differentiate between isodose distributions for all clinical variations.
19.31	Evaluate possible corrections for treatment errors to correct misadministration of prescribed dose.
19.32	Differentiate between the treatment planning terms: maximum, minimum, mean, modal and median dose.
19.33	Describe International Commission on Radiological Units (ICRU) recommendations on dose variance within a target volume and the effect that variances may have on cure rates, local control and tolerance.
19.34	Analyze dose volume histograms relative to treatment planning.
19.35	Evaluate patient changes to determine the integrity of a treatment plan.
19.36	Compare electron beam depth dose characteristics for various energies.
19.37	Identify clinical factors that would influence beam type and energy selection.
19.38	Differentiate between standard treatment distance and virtual distance.
19.39	Discuss why equivalent squares used with photon beams are inappropriate with electron beams.

19.40	Describe how inhomogeneities influence electron beam path.
19.41	Discuss the considerations of matching an electron field to other adjacent photon or electron fields.
19.42	Analyze which shielding materials and thickness would be needed to attenuate electron beams to appropriate levels.
19.43	Describe how electron shielding materials should be arranged for external vs. internal shielding.
19.44	Discuss changes in dose rate and dose distribution with changes in blocking and electron energy.
19.45	Compare calculations of shielding thicknesses to measured data for electron beams.
19.46	Determine why specific isodose lines are prescribed for various clinical situations involving critical and noncritical structures.
19.47	Calculate percentage depth dose for 10%, 50%, 80% and 90% lines for various electron energies.
19.48	Describe the considerations in the clinical application of special electron treatments, including total skin irradiation and arc therapy.
19.49	Compare the general isodose pattern of particle beams.
19.50	Determine clinical usefulness of various beam types and the clinical implications involved.
19.51	Describe the various imaging modalities in tumor localization and planning.
19.52	Discuss planning techniques used to accommodate the treatment volume shape.
19.53	Discuss isocenter localization for radiosurgery.
19.54	Identify vital structures considered during treatment planning.
19.55	Compare single dose delivery to fractionated dose delivery schedules.
19.56	Discuss the need for specific equipment used to deliver radiation for conformal therapy.
19.57	Discuss the purpose and contents of the ICRU Report 62 and supplements.
19.58	Discuss the computer system features necessary for conformal therapy treatment planning.
19.59	Identify common sites amenable to conformal therapy and the typical doses employed for those sites.
19.60	Compare configurations of multileaf collimation systems.
19.61	Discuss considerations for multileaf collimators.
19.62	Review the differences between static and dynamic multileaf collimation systems.

19.63	Identify appropriate clinical applications for brachytherapy.
19.64	Compare and contrast brachytherapy delivery systems.
19.65	Describe the techniques and applicators used for intracavitary, interstitial and endovascular brachytherapy procedures.
19.66	Explain how simulation and CT data is used for source localization.
19.67	Discuss the objective of treatment planning for brachytherapy procedures.
19.68	Summarize dose specification and prescription techniques for different types of implants.
19.69	Describe optimization techniques used in computer aided dose calculations.
19.70	Discuss record keeping requirements for radioactive material.
19.71	State radiation safety requirements for brachytherapy procedures.
19.72	Identify appropriate clinical applications for using intensity modulated radiation therapy (IMRT).
19.73	Describe the general flow of the IMRT process from patient immobilization through treatment delivery.

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Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical education has been established for the students in these programs. It is designed to permit accurate assessment of the knowledge, skills and abilities of students in the clinical education component of the program. After completion of the prerequisite practice of radiotherapeutic procedures, students indicate readiness for evaluation in a specific category to the clinical affiliate or faculty in the assigned clinical education center.

Clinical education and laboratory activities facilitate student rotations to provide them equitable opportunity to achieve the program clinical objective utilizing multiple affiliates. The resulting clinical rotation and laboratory practicum provides students with patient treatment techniques utilizing a variety of megavoltage equipment, radiation therapy patient care procedures, localization and treatment, radiation therapy physics including dosimetry, machine calibration, quality assurance, handling of sealed radioactive sources and protection, follow up, patient care and patient recordkeeping.

Special Notes

The program is designed to provide the radiation therapy community with workers who, under the supervision of a Radiation Oncologist, uses ionizing radiation to treat disease. The curriculum provides students an opportunity to develop technical and social skills through experiences in the clinic, classroom, and laboratory.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students are encouraged to become members of their appropriate professional organizations such as the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its' local affiliate.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Radiation Therapy Specialist (0351090703) – 43 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Respiratory Care**
Career Cluster: **Health Science**

AS	
CIP Number	1351090800
Program Type	College Credit
Standard Length	76 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-1126 Respiratory Therapists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program trains students for the occupation of Respiratory Therapist (SOC Code 29-1126) or to provide supplemental training for persons previously or currently employed in these occupations. The respiratory therapist specializes in the application of scientific knowledge and theory to practical, clinical problems of respiratory care.

The content includes but is not limited to quality control of all units, intermittent positive pressure breathing (IPPB); humidity/aerosol therapy; medical gas administration; broncho-pulmonary drainage; mechanical ventilation; airway management; emergency care; pulmonary function testing; cardiopulmonary rehabilitation; measurement and reporting of cardiopulmonary sampling, infection control; cardiopulmonary drug administration, physiologic monitoring, and special advanced procedures.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 76 credit hours.

Regulated Programs

Graduates of this program are eligible to take the NBRC (National Board of Respiratory Care) examination(s) and become licensed with the State of Florida Department of Health, Division of Quality Assurance.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Recognize and practice safety and security procedures.
02.0 Recognize and practice infection control procedures.
03.0 Select, review, obtain and interpret data.
04.0 Select, assemble, and check equipment for proper function, operation and cleanliness.
05.0 Initiate, conduct, and modify prescribed therapeutic procedures.
06.0 Demonstrate knowledge of the health care delivery system, maintain records and communications.
07.0 Demonstrate legal and ethical responsibilities.
08.0 Demonstrate knowledge of employment requirements as a respiratory care professional.
09.0 Adapt appropriate respiratory care procedures to the home care environment.
10.0 Perform advanced respiratory care procedures.
11.0 Administer cardiopulmonary drugs.
12.0 Assist the physician with special respiratory therapy procedures.
13.0 Initiate and conduct patient and family education.

Florida Department of Education
Student Performance Standards

Program Title: **Respiratory Care**
CIP Number: **1351090800**
Program Length: **76 credit hours**
SOC Code(s): **29-1126**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Recognize and practice safety and security procedures. –The student will be able to:
01.01	Recognize safe and unsafe working conditions and report safety hazards.
01.02	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
01.03	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.
01.04	Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
01.05	Demonstrate proper body mechanics and ergonomics.
01.06	Demonstrate the procedure for properly identifying patients.
01.07	Demonstrate procedures for the safe transport and transfer of patients.
01.08	Describe fire, safety, disaster and evacuation procedures.
02.0	Recognize and practice infection control procedures. –The student will be able to:
02.01	Define principles of infection control including standard and transmission based precautions.
02.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.
02.03	Demonstrate knowledge of surgical asepsis.
02.04	Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.
02.05	Apply infection control techniques designed to prevent the spread of diseases caused by airborne and blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
03.0	Select, review, obtain and interpret data. –The student will be able to:

	03.01	Review existing data in patient record, and recommend diagnostic procedures based on all available patient information.
		03.01.01 Review existing data in patient record.
		03.01.02 Recommend procedures to obtain additional data.
	03.02	Collect and evaluate additional pertinent clinical information.
		03.02.01 Assess the patients overall cardiopulmonary status by inspection, percussion, palpation and auscultation.
	03.03	Perform procedures and interpret results.
		03.03.01 Perform and/or interpret results of bedside procedures.
	03.04	Determine the appropriateness of the prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of the respiratory care plan.
		03.04.01 Review planned therapy to establish therapeutic goals.
		03.04.02 Determine appropriateness of prescribed therapy and goals for identified pathophysiological state.
		03.04.03 Recommend changes in therapeutic plan (based on data) if indicated.
		03.04.04 Participate in development of respiratory care plan.
04.0	Select, assemble, and check equipment for proper function, operation and cleanliness. –The student will be able to:	
	04.01	Select and obtain equipment, assure cleanliness of equipment, assemble, check for proper function, identity malfunctions of equipment, and take action to correct malfunctions of equipment appropriate to the respiratory care plan which includes the following:
		04.01.01 Oxygen administration devices
		04.01.02 High flow and heated high flow oxygen devices
		04.01.03 Humidifiers.
		04.01.04 Aerosol generators.
		04.01.05 Ventilators; invasive and non-invasive.
		04.01.06 Artificial airways.
		04.01.07 Laryngeal mask and supraglottic airways
		04.01.08 Suctioning devices.
		04.01.09 Gas delivery, metering, and clinical analyzing devices.

	04.01.10	Manometers and gauges.
	04.01.11	Resuscitation devices.
	04.01.12	Hyperinflation/lung expansion devices.
	04.01.13	Patient breathing circuits.
	04.01.14	Metered dose inhalers (MDI) and spacers.
	04.01.15	Dry powder inhalers (DPI)
	04.01.16	Airway Clearance devices.
	04.01.17	Specialty medical gases such asnitric oxide and heliox.
	04.01.18	Pleural drainage devices
	04.01.19	Bronchoscopy Devices
	04.01.20	Bronchoalveolar lavage (BAL) and related devices
	04.01.21	Noninvasive monitoring equipment
	04.01.22	Intubation equipment
	04.01.23	Intra-aortic balloon pump (IABP)
05.0	Initiate, conduct, and modify prescribed therapeutic procedures. –The student will be able to:	
	05.01	Explain planned therapy and goals to patients; maintain records and communication; and protect patient from nosocomial infection.
	05.01.01	Explain planned therapy and goals to patient in understandable terms to achieve optimal therapeutic outcome.
	05.01.02	Maintain records and communication.
	05.01.03	Protect patient from nosocomial infection by adherence to infection control policies and procedures (standard precautions, blood and body fluid precautions, etc.).
	05.02	Conduct therapeutic procedures to achieve maintenance of patent airway, including the care of artificial airways; and to achieve removal of bronchopulmonary secretions.
	05.02.01	Achieve maintenance of patient airway.
	05.02.02	Achieve removal of bronchopulmonary secretions.
	05.02.03	Understand function and achieve application of speaking valves.

05.03	Conduct therapeutic procedures to achieve adequate spontaneous and artificial ventilation.	
	05.03.01	Instruct in proper breathing techniques.
	05.03.02	Instruct and monitor techniques of Hyperinflation/lung expansion.
	05.03.03	Instruct and monitor techniques of airway clearance devices.
	05.03.04	Administer/assist with directed cough (quad cough/huff cough).
	05.03.05	Administer prescribed aerosolized medications.
	05.03.06	Select appropriate ventilator including both conventional and non- conventional (i.e. high frequency ventilation).
	05.03.07	Select, initiate and adjust invasive ventilation device and properly manipulate settings based on patient response and data.
	05.03.08	Select, initiate and adjust non-invasive ventilation device and properly manipulate settings based on patient response and data.
	05.03.09	Manage liberation from mechanical ventilation.
	05.03.10	Manage Withdrawal of life support.
	05.03.11	Interpret invasive ventilator graphics and manipulate settings accordingly.
	05.03.12	Interpret non-invasive ventilator graphics and manipulate settings accordingly.
	05.03.13	Assist with the transport of a mechanically ventilated patient.
05.04	Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation.	
	05.04.01	Position patient to minimize hypoxia.
	05.04.02	Administer oxygen (on or off ventilator).
	05.04.03	Prevent procedure-associated hypoxia (e.g. oxygenated before and after suctioning and equipment change, etc.).
	05.04.04	Initiate and adjust CPAP/PEEP therapy.
	05.04.05	Initiate lung recruitment maneuvers.
05.05	Evaluate and monitor patient’s response to respiratory care.	
	05.05.01	Measure and record vital signs.
	05.05.02	Monitor cardiac rhythm.

05.05.03	Non-Invasive monitors
05.05.03.1	Monitor pulse oximetry.
05.05.03.2	Monitor capnography.
05.05.03.3	Monitor Transcutaneous oxygenation
05.05.04	Auscultate chest and record changes.
05.05.05	Observe changes in sputum production and consistency.
05.05.06	Note patient's subjective response to therapy.
05.05.07	Measure FIO2 and or liter flow.
05.05.08	Perform bedside spirometry.
05.05.09	Perform peak flow
05.05.10	Perform 6 minute walk test
05.05.11	Perform FeNO measurement
05.05.12	Perform arterial puncture.
05.05.13	Interpret results of arterial blood gas analysis.
05.05.14	Adjust and check alarm systems.
05.05.15	Note patient's response to mechanical ventilation.
05.05.16	Measure appropriate mechanical ventilation parameters.
05.05.17	Monitor endotracheal or tracheostomy tube cuff pressure.
05.06	Make necessary modifications in therapeutic procedures and recommend respiratory care plan modifications based on patient response.
05.06.01	Terminate treatment based on patient's adverse reaction to therapy being administered.
05.06.02	Modify bronchial hygiene.
05.06.03	Modify management of artificial airways.
05.06.04	Modify Hyperinflation/lung expansion devices.

	05.06.05	Modify aerosol therapy.
	05.06.06	Modify oxygen therapy.
	05.06.07	Modify suctioning.
	05.06.08	Modify mechanical ventilation.
	05.06.09	Recommend modifications in the respiratory care plan based on the patient's response.
05.07	Initiate, conduct, or modify respiratory care techniques in an emergency setting as prescribed by the American Heart Association Guidelines.	
05.08	Evaluate and respond to emergent loss of artificial airway.	
05.09	Demonstrate an understanding of special airway management situations, such as surgical alterations of the airway, and adjust response as appropriate.	
06.0	Demonstrate knowledge of the health care delivery system, maintain records and communications. –The student will be able to:	
06.01	Describe the various types of healthcare providers and the range of services available including resources to victims of abuse, neglect and domestic violence.	
06.02	Identify the general roles and responsibilities of the individual members of the healthcare team.	
06.03	Use computer system to access and input patient data, when appropriate.	
06.04	Chart on medical record; record therapy and results using conventional terminology as required by hospital policy and regulatory agencies.	
06.05	Be familiar with and use departmental policy and procedure manual; actively participate in recommending updates.	
06.06	Consistently display a professional and positive attitude in all communications.	
06.07	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.	
06.08	Participate and communicate as part of the interdisciplinary team.	
06.09	Display respect for patients regardless of ethnicity, religion, cultural, creed, gender, sexual orientation, age, or diagnosis.	
06.10	Adapt communication skills to varied levels of understanding and cultural orientation including ethnicity, religion, cultural, creed, gender, sexual orientation, age, diagnosis, and preferred learning style.	
06.11	Recognize the steps in the grief process.	
06.12	Maintain confidentiality of all patient records and information.	
06.13	Distinguish between and report subjective and objective information.	

07.0	Demonstrate legal and ethical responsibilities. –The student will be able to:
	07.01 Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	07.02 Explain the “Patient’s Bill of Rights”.
	07.03 Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	07.04 Describe advance directives.
	07.05 Describe different forms of consent including implied, informed, and expressed.
	07.06 Recognize and report illegal and/or unethical practices of healthcare workers.
	07.07 Recognize and report abuse including domestic violence and neglect.
08.0	Demonstrate knowledge of employment requirements as a respiratory care professional. –The student will be able to:
	08.01 Identify the requirements to become licensed in Florida and maintenance of the license.
	08.02 Identify National Board of Respiratory Care continuing competencies and membership requirements to maintain credentials.
	08.03 Identify the Laws and Rules related to the practice of respiratory care in Florida included in Chapter 468 Part V.
	08.04 Discuss patient safety goals and any other applicable accrediting/regulatory agency guidelines.
09.0	Adapt appropriate respiratory care procedures to the home care environment. –The student will be able to:
	09.01 Provide for oxygen administration, aerosol and bronchial hygiene therapy and hyperinflation/lung expansion therapy in the home.
	09.02 Coordinate with the interdisciplinary team in arranging life support and monitoring (i.e. mechanical ventilation, apnea monitoring, nasal CPAP) in the home.
	09.03 Instruct patient, family and other healthcare workers on the appropriate use, operation, cleaning and maintenance of respiratory care equipment.
	09.04 Perform patient monitoring and assessment in the home.
	09.05 Recognize and report symptoms of abuse and neglect.
10.0	Perform advanced respiratory care procedures. –The student will be able to:
	10.01 Assume primary clinical responsibility for all respiratory care modalities.
	10.02 Check physicians’ orders or consult with physician.
	10.03 Design and implement respiratory care plan as appropriate.

	10.04	Perform pulmonary artery sampling.
	10.05	Perform cardiac output procedures.
	10.06	Perform arterial line set up, insertion and monitoring.
	10.07	Perform noninvasive monitoring techniques as appropriate.
	10.08	Perform various advanced procedures, based on local practice.
	10.09	Remove, clean and/or replace inner cannula tube and/or replace tracheostomy tube, as ordered.
	10.10	Perform various mathematical computations dealing with cardiopulmonary assessment.
	10.11	Evaluate and apply hemodynamic monitoring to enhance care of the patient.
	10.12	Perform intubation.
	10.13	Initiate infant mechanical ventilation with appropriate ventilator and parameter including CPAP and PEEP.
	10.14	Monitor return to normal physiology; reestablish ventilation if necessary.
	10.15	Monitor return to normal physiology, reintubation if necessary.
	10.16	Monitor and assist in procedural sedation.
11.0	Administer cardiopulmonary drugs. –The student will be able to:	
	11.01	Demonstrate knowledge of drug classifications, actions and uses, route of administration and usual adult doses, mathematics needed to calculate divided or children's dosage, contraindications, drug interactions, adverse reactions, how supplied, mixing instructions, storage, laboratory test interferences.
	11.02	Recognize the critical importance of this activity and follow directions.
	11.03	Verify physicians' orders.
	11.04	Prepare medication for administration.
	11.05	Identify patient, introduce self.
	11.06	Administer drug.
	11.07	Perform endotracheal instillation of medication as appropriate.
	11.08	Monitor Patient response to drug administration.
	11.09	Document administering of drug in all appropriate records.

	11.10 Recognize the symptoms of drug idiosyncrasies.
	11.11 Identify adverse drug reactions and take appropriate action.
	11.12 Recognize anaphylactic shock.
12.0	Assist the physician with special respiratory therapy procedures. –The student will be able to:
	12.01 Assist with insertion and maintenance of an umbilical arterial and/or venous catheter.
	12.02 Assist with bronchoscopy, chest tubes, and cardiac catheterizations.
	12.03 Assist with pulmonary artery catherization and other invasive monitoring.
	12.04 Assist with thoracentesis, chest tube insertion, tracheostomy, intubation and cardioversion.
	12.05 Assist with cardiopulmonary stress testing.
13.0	Initiate and conduct patient and family education. –The student will be able to:
	13.01 Demonstrate knowledge of smoking cessation products, techniques and programs.
	13.02 Educate the patient and family in relevant safety and infection control procedures and techniques.
	13.03 Educate the patient and family on the importance of pulmonary rehabilitation and their role.
	13.04 Educate the patient and family in disease management techniques for the following disorders/ diseases: 13.04.01 Asthma 13.04.02 COPD 13.04.03 Sleep disorders

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The respiratory therapist may be required to exercise considerable independent, clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Further, the therapist is capable of serving as a technical resource person to the physician with regard to current practices in respiratory care, and to the hospital staff as to effective and safe methods for administering respiratory therapy.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as

instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Surgical First Assisting**
Career Cluster: **Health Science**

AS	
CIP Number	1351090900
Program Type	College Credit
Standard Length	74 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2055 Surgical Technologists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as a Surgical First Assistant Expanded Function (Surgical technologists is SOC 29-2055).

The content includes, but is not limited to, communication and interpersonal skills, legal and ethical responsibilities, anatomy, physiology, pathophysiology, microbiology, aseptic techniques, patient care procedures, surgical procedures, patient safety, use and care of equipment and supplies, CPR, Heartsaver, employability skills, basic computer literacy and surgical first assistant skills such as preoperative duties, aid in exposure, hemostasis, closure, intraoperative technical functions, and postoperative duties under the direction and supervision of the surgeon.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 74 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate central sterile processing skills.
13.0 Demonstrate competencies in the core components of the surgical first assistant related to communication and interpersonal skills
14.0 Demonstrate an understanding of the basic sciences related to surgical first assisting.
15.0 Describe and practice safety measures in the surgical environment.
16.0 Perform patient care procedures related to the surgical environment and describe methods for meeting patient's needs.
17.0 Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.
18.0 Demonstrate knowledge of the basic surgical skills necessary to function safely and effectively.
19.0 Demonstrate competencies in the core components of the surgical first assistant related to knowledge and skills.
20.0 Demonstrate competencies in the core components of the surgical first assistant related to legal and ethical responsibilities.

Florida Department of Education
Student Performance Standards

Program Title: **Surgical First Assisting**
CIP Number: **1351090900**
Program Length: **74 credit hours**
SOC Code(s): **29-2055**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Students completing intended outcomes 12-19 will meet the requirements of the Surgical First Assistant –CCC Program (SOC Code 29-2055).	
12.0	Demonstrate central sterile processing skills. --The student will be able to:
12.01	Apply the principles of medical/surgical asepsis including attire, environmental control and traffic patterns to control and manage dirty, clean and sterile areas of the operating room and central supply.
12.02	Identify relevant federal, state and local guidelines, standards and regulations.
12.03	Apply ergonomic considerations and appropriate body mechanics for lifting, turning, pulling, pushing, reaching, and other work related activities.
12.04	Describe the methods of disinfection and sterilization.
12.05	Describe the importance of following device, equipment, instrument or supply manufacturer's instructions for decontamination, processing, operation, and troubleshooting.
12.06	Demonstrate correctly decontamination techniques for instruments, equipment and the environment used during surgical procedures.
12.07	Demonstrate appropriate techniques for inspection, testing and sending out for repair instruments, equipment and supplies regarding condition, quantity and quality.
12.08	Describe clean and sterile transportation, restocking, and storage principles for instruments.
12.09	Analyze the results of sterilization process monitors used in sterilization units, sterilizations cycles and ensures documentation meets the safe parameters for each prior to use of an item.

	12.10	Describe clean and sterile transportation, restocking, and storage principles for supplies in the facility (receivables, sterile, clean, or contaminated).
	12.11	Demonstrates the ability to identify and select appropriate instruments, equipment and supplies for any surgical procedure.
	12.12	Demonstrate the ability to prepare and label items for high level disinfection and sterilization as required.
	12.13	Demonstrate the techniques of high level disinfection and sterilization for immediate use items.
	12.14	Describe various supply distribution and inventory control methods.
	12.15	Demonstrate case cart preparation and management.
13.0	Demonstrate competencies in the core components of the surgical first assistant related to communication and interpersonal skills -- The student will be able to:	
	13.01	Demonstrate proper use of communication systems.
	13.02	Use various forms of communication in the role of Surgical First Assistant to communicate relevant, accurate and complete information in a concise and clear manner.
	13.03	Collaborate with the patient, surgeon, and other members of the Healthcare team to assess, plan, implement, and evaluate the patient's surgical care to promote positive outcomes including the use of preoperative checklists and preoperative assessment and evaluations methods.
	13.04	Demonstrate patient interviewing techniques.
	13.05	Demonstrate the ability to analyze and communicate specific patient care factors or needs and the surgeon's preferences to the surgical team including suture needs, specialty supplies and instrumentation, and equipment.
	13.06	Describe the concepts of conflict resolution, assertive behavior and the principles of teamwork as a patient advocate and assistant to the surgeon.
	13.07	Demonstrate competency regarding reporting and documentation responsibilities in the clinical setting.
	13.08	Employ leadership skills to accomplish organizations goals and objectives.
	13.09	Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	13.10	Conduct and participate in meetings to accomplish work tasks.
	13.11	Employ mentoring skills to inspire and teach others.
14.0	Demonstrate an understanding of the basic sciences related to surgical first assisting.--The student will be able to:	
	14.01	Apply knowledge of the microbial environment to the surgical care of the patient.
	14.02	Analyze patient defense mechanisms, the chain of infection and the infectious process as related to surgical practice and the prevention of surgical site infections.
	14.03	Correlate wound classifications and wound healing principles with wound management guidelines and complications.

	14.04	Demonstrate infection and disease transmission control techniques following the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) guidelines for surgery.
	14.05	Describe the causes, clinical signs and symptoms and prevention measures for surgical infections.
	14.06	Describe the basic composition, principles, clinical signs and symptoms regarding electrolytes and fluid balance including the mechanism of hypovolemic, septic, hemorrhagic and cardiogenic shock.
	14.07	Correlates the principles and disorders of hematology, hemostasis, types of blood components, and coagulation with hemostasis in surgery.
	14.08	Discuss the principles of information technology, electricity, and robotics as they relate to surgery.
15.0	Describe and practice safety measures in the surgical environment.--The student will be able to:	
	15.01	Inspect emergency equipment and supplies for condition and quantity.
	15.02	Implement appropriate Joint Commission patient safety goals.
	15.03	Demonstrate appropriate safety measures to prevent operating room fires and electrical shock from equipment.
	15.04	Apply knowledge of surgical hazards to safe patient care.
	15.05	Demonstrate the safe inspection and utilization of laser, electrical, endoscopic, and robotic equipment.
	15.06	Describe and practice appropriate safety measures for laser, electrical, endoscopy and robotic surgery.
	15.07	Describe the role preventive maintenance, prevention, correction, and documentation plays in patient and personnel safety and the prevention of medical errors in the surgical setting.
	15.08	Explain the purpose of Florida’s “Right to Know” law and its provisions.
	15.09	Describe the role of the surgical technologist and surgical first assistant in an emergency patient situation.
	15.10	Describe the protocol for personal injury including the completion of incident/occupancy reports and follow up.
	15.11	Describe the preparation and planning, detection and communication, incident management and support systems, safety and security, clinical/public health assessment and intervention, contingency, continuity and recovery and the public health law and ethics of All-Hazards Preparation for disasters.
	15.12	Conduct technical research to gather information for decision-making.
	15.13	List and describe quality control systems and/or practices common to the workplace.
	15.14	Employ critical thinking skills independently and in teams to solve problems, resolve conflicts, and make decisions.
16.0	Perform patient care procedures related to the surgical environment and describe methods for meeting patient's needs.--The student will be able to:	
	16.01	Identify the roles of the members of the surgical team during each phase of surgery.

	16.02	Assist surgeon with the perioperative care of the surgical patient.
	16.03	Correlate the preoperative examination and preparation process for both surgery and anesthesia with the identification of potential patient factors that may inhibit positive outcomes.
	16.04	Describe appropriate review and identification of patient factors regarding the chart including preoperative identification, preoperative checklists, diagnostic tests, lab values and surgical consent.
	16.05	Demonstrate safe patient transfer/transportation techniques used in the perioperative setting.
	16.06	Monitor OR traffic, placement of sterile tables and ensure steps are taken to reduce microbial fallout.
	16.07	Correlate anesthesia monitoring devices, patient complications and interventions with maintaining patient homeostasis.
	16.08	Demonstrate the principles of safe positioning, application of safety devices, and restraining patient for surgery correlating the prevention of potential complications with the need for patient stability.
	16.09	Demonstrate the selection of the appropriate solution and preparation of the operative site for the surgical procedure.
	16.10	Perform steps for Foley catheter insertion and connection to drainage.
	16.11	Describe the safe usage of critical instruments, equipment and supplies utilized intraoperatively including the electrosurgical unit, Lasers, Ultrasonic equipment, endoscopy equipment, robotics, insufflators, light sources, microscopes, power tools, suction, tourniquets, etc.
	16.12	Demonstrate correctly the connection and operation of essential instruments, equipment and supplies for the surgical procedure.
	16.13	Demonstrate correct mathematical skills related to dosage available versus dosage needing when drawing up or administering medications.
	16.14	Demonstrate correctly the techniques for injection of local anesthetics.
	16.15	Demonstrate knowledge of wound management techniques, including suturing techniques in the operating room, perioperative care of special needs patients, and perioperative assessment of the skin.
	16.16	Demonstrate applicable wound management principles including the placement and security of catheters, wound drainage systems, sterile dressings and cast applications.
	16.17	Discuss relevant and unique factors regarding postoperative care specific to the procedure.
17.0	Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.--The student will be able to:	
	17.01	Analyze the terminology the basic concepts of pharmacology and drug administration including pharmacokinetics and pharmacodynamics.
	17.02	Describe pharmacological concepts relative to the administration of all anesthesia methods, agents, and techniques including the role of the anesthetist, the first assistant and the circulator during induction and extubation.
	17.03	Identify the classification, actions, effects and precautions of common drugs used at the field, and within the surgical environment.
	17.04	Apply knowledge of the pharmacologic agents used in the treatment of the surgical patient.

17.05	Describe potential anesthesia and operative complications and interventions for each.
17.06	Demonstrate the application of the six rights of medication administration.
17.07	Identify the correct medication form and method of application.
17.08	Analyze and assemble correctly all medication supplies, for each drug to be used on the sterile field.
17.09	Pour or receive, measure, prepare and manage sterile solutions accurately within the sterile field.
17.10	Demonstrate the appropriate methods of transferring and accepting medications onto the sterile field.
17.11	Label properly all fluids and medications used within the sterile field.
17.12	Demonstrates ability to correctly calculate common medication conversions and dosages.
17.13	Apply correct unit of measure for each medication.
17.14	Demonstrates preparation and passing of medication mixtures using ratio and proportions correctly.
17.15	Maintains an accurate account of the amount of each medication and/or solution used at the field and notifies circulator as appropriate to the situation to ensure accurate documentation.
17.16	Describe the adverse effects of local and topical anesthetics.
18.0	Demonstrate knowledge of the basic surgical skills necessary to function safely and effectively.--The student will be able to:
18.01	Demonstrate an understanding of advanced anatomy, physiology, the disease processes and the relationship of the processes to the specific types of pathologies according to body systems.
18.02	Correlate the preoperative diagnosis, diagnostic interventions, common complications, and operative pathophysiology relative to specific surgical procedures.
18.03	Correlate the preoperative diagnosis, operative anatomy, physiology and pathology, usual incision, wound closure techniques, medications utilized, common complications, and the usual sequence as related to specific surgical procedures.
18.04	Select and verify required instrumentation, equipment and supplies, including any implants needed for specific surgical procedures using core knowledge and the applicable surgeon preference/procedure cards.
18.05	Demonstrate an understanding of diagnostic images as related to surgical anatomy.
18.06	Demonstrate application of aseptic and sterile technique principles including the appropriate corrective action for common breaks in sterile technique that may occur.
18.07	Demonstrate the surgical scrub and donning of sterile gown and gloves.
18.08	Demonstrate the principles of sterile draping.
18.09	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).

	18.10	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).
	18.11	Prepare, pass, utilize, and monitor sharps, sutures, ligatures, ties and staples correctly.
	18.12	Prepare, pass, utilize, and monitor amount given for medications and solutions utilized on the sterile field.
	18.13	Demonstrate assisted gowning/gloving for others.
	18.14	Participate in the surgical time out to prevent wrong site surgery and delays in the surgical procedure
	18.15	Select, prepare, pass, and utilize instruments, equipment, tissue replacement materials, implants and supplies efficiently.
	18.16	Monitor the surgical site regarding counted items, stage of surgery, tissue appearance and patient's body fluids, e.g. blanching, desiccation, color of blood, blood loss, bile leaks, ascites, etc.
	18.17	Demonstrate correctly the initiation and completion of counts regarding sponges, sharps, instruments and miscellaneous items used within the patient's wound to prevent foreign body retention.
	18.18	Describe the types of incisions, methods of wound closure, and mechanisms of wound management.
	18.19	Describe the usual sequence of a common surgical procedure. (i.e. incision into the anatomy, dissection of the anatomy, operative steps of the procedure, and closing of the anatomy.)
	18.20	Selects the appropriate instrument, equipment, or supply for each step of the procedure.
	18.21	Demonstrate ability to prepare, validate, handle and preserve specimen accurately for laboratory analysis.
	18.22	Demonstrates knowledge of and assists with surgical procedures while functioning in the roles of scrub and assistant circulator.
	18.23	Demonstrate effective perioperative case management ensuring cost control and time/motion economy methods are utilized to maximize the efficiency of the OR team.
19.0	Demonstrate competencies in the core components of the surgical first assistant related to knowledge and skills.-- The student will be able to:	
	19.01	Prioritize care or actions to be taken in a given circumstance to expedite the operative procedure or emergency situation.
	19.02	Describe preoperative diagnosis, common complications, operative pathophysiology and postoperative care related to the specific surgical procedures performed.
	19.03	Analyze common patient assessments including skin and chart review relating relevant diagnostic and monitoring results to the surgeon as applicable to the surgical specialty.
	19.04	Demonstrate preoperative preparation of the patient to facilitate proper patient care including but not limited to positioning, application of tourniquet, surgical skin preparation, catherization, draping, and sterile setup preparation.
	19.05	Demonstrate and describe types of incisions and insertion of trocars.
	19.06	Identify types of tissue, organs, and gross anatomical structures correctly during surgical procedures.
	19.07	Demonstrate appropriate tissue handling techniques including the care of the surgical specimens.

	19.08	Provide appropriate exposure and visualization of the operative field for the surgeon.
	19.09	Describe the appropriate sequence for common surgical procedures.
	19.10	Utilize appropriate techniques to assist with hemostasis.
	19.11	Demonstrate appropriate safe surgical techniques when the case involves either thermal, radiological, laparoscopic, environmental, or other known surgical hazard.
	19.12	Participate in volume replacement or autotransfusion techniques and medication administration as appropriate.
	19.13	Select appropriate instruments and supplies for the type of tissue.
	19.14	Demonstrate competence with technology, the use of instruments, equipment supplies and medications for the surgical procedure.
	19.15	Use surgical instruments skillfully in ways consistent with their design and purpose.
	19.16	Utilize appropriate techniques to assist with the closure of body planes.
	19.17	Select and apply appropriate wound dressings.
	19.18	Assist surgeon in securing drainage systems to tissue.
	19.19	Evaluate patient and report appropriately any abnormal condition found post-op related to positioning.
	19.20	Assist surgeon with postoperative care of the patient to facilitate proper patient care.
	19.21	Demonstrate appropriate response to emergency situations including respiratory/cardiac arrest situations, sudden hypoxia, hemorrhage, shock, surgical misadventures, contamination, perforation of viscous or cavity, critical equipment failure, and exposure, retraction and compression injuries.
	19.22	Facilitate the continuity of care within and across the healthcare settings to access available resources and services.
20.0	Demonstrate competencies in the core components of the surgical first assistant related to legal and ethical responsibilities. --The student will be able to:	
	20.01	State methods, standards and aids that assist a surgical first assistant with interpreting and following legal responsibilities.
	20.02	Describe the importance of maintaining credentials and following the appropriate credentialing policy in accordance with hospital policy and appropriate laws and regulations.
	20.03	Explain the job requirements.
	20.04	Describe the key elements related to the development of a surgical conscience.
	20.05	Demonstrate an understanding of the legal, ethical, moral, and professional responsibilities of working as a surgical assistant, and the professional skills necessary to fulfill the role.
	20.06	Provide health care within the ethical/legal framework of the job description including role responsibilities and limitations.

20.07 Describe the principles of problem solving and confidentiality in ethical decision making and risk management.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

The Human Patient Simulator (HPS) or other accepted simulation scenarios may be used for a limited number of clinical hours. A low teacher-student ratio in the lab and clinical area is strongly recommended. The recommended maximum ratio is 1:8.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health

The Surgical First Assistant Core Curriculum should be taught by qualified staff as outlined in the most recent approved Commission on Accreditation on Allied Health Education programs (CAAHEP) accreditation standards and guidelines.

Entering students who have successfully completed the program 0351090905 or 0351090904, Surgical Technology or are currently Nationally Certified as a CST (Certified Surgical Technologist) or SA-C (Surgical Assistant-Certified) should be given appropriate advanced standing.

After successful completion of a Commission on Accreditation on Allied Health Education programs (CAAHEP) accredited surgical first assistant program, students are eligible to take the National Board of Surgical Technology and Surgical Assisting First Assistant exam as approved.

The standard length for the AS degree program is 74 college credits.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Surgical First Assisting (0351090908) – 59 Credits

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Diagnostic Medical Sonography Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351091004
Program Type	College Credit
Standard Length	77 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2032 Diagnostic Medical Sonographers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as diagnostic medical sonographers SOC Code 29-2032 (Diagnostic Medical Sonographers) or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to anatomy, physiology and pathology of the abdominal, pelvic, and urogenital structures; physics; instrumentation; equipment standards; biological effect of ultrasound; patient care; clinical medicine; applications and limitations of ultra- sound; related diagnostic procedures; image evaluation; administration; first aid and cardiopulmonary resuscitation; employability skills; leadership and human relations skills; health and safety.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 77 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate an understanding of the role and responsibilities of the sonographer in regards to ultrasound imaging and patient care.
13.0 Demonstrate an awareness of the basic principles of ultrasound physics, emphasizing practical relationships of physics to optimizing images for more accurate diagnosis.
14.0 Demonstrate knowledge of the basic principles of instrumentation common to the field of ultrasound
15.0 Demonstrate knowledge of the principles of Doppler.
16.0 Apply knowledge gained in instrumentation lecture as it applied to various ultrasound systems in the clinical setting.
17.0 Apply knowledge of the anatomy and scanning techniques related to retroperitoneal structures and upper abdominal organs and systems.
18.0 Apply knowledge of the anatomy and scanning techniques related to superficial structures.
19.0 Apply knowledge of anatomy, pathology, and scanning techniques to the urinary system and adrenal glands.
20.0 Apply knowledge of anatomy, pathology, and scanning techniques used in Sonography of the female pelvis.
21.0 Apply knowledge of anatomy, pathology and scanning techniques related to obstetrics.
22.0 Develop a continuous awareness of the disease processes.
23.0 Apply accumulated knowledge to the process of creating diagnostic sonograms.
24.0 Apply skills needed to complete diagnostic images of high quality from a variety of scanning units.

Florida Department of Education
Student Performance Standards

Program Title: **Diagnostic Medical Sonography Technology**
CIP Number: **1351091004**
Program Length: **77 credit hours**
SOC Code(s): **29-2032**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Diagnostic Medical Sonography Technology: The intended outcomes (12-24) complete the occupational completion point of Diagnostic Medical Sonography Technology.	
12.0	Demonstrate an understanding of the role and responsibilities of the sonographer in regards to ultrasound imaging and patient care –The student will be able to:
12.01	Explain the role of the sonographer.
12.02	Describe the relationship of ultrasound to other imaging modalities.
12.03	Describe and explain the proper uses of orientation and standard labeling of ultrasound images.
12.04	Explain the basic concepts of ultrasound equipment available and demonstrate safety in their use and basic techniques of scanning.
12.05	Explain and demonstrate the criteria for image evaluation and specifically of special sonographic parameters.
12.06	Demonstrate proper body mechanics to avoid Work Related Musculoskeletal Disorders when performing sonographic examinations.
12.07	Describe special problems encountered and methods related to medical ethics and law in Sonography.
12.08	Describe the organizational structure common to most hospitals with special emphasis placed on the role of the ultrasound department.
12.09	Describe the relationship of the sonographer to the patients and their special needs.

	12.10 Demonstrate professional communication skills required on a daily basis in the health care setting.
	12.11 Explain and demonstrate the methods of patient preparation and care before and during a sonogram.
	12.12 Demonstrate proper body mechanics when transporting and assisting patients.
	12.13 Discuss current trends in sonographic technology and techniques.
13.0	Demonstrate an awareness of the basic principles of ultrasound physics, emphasizing practical relationships of physics to optimizing images for more accurate diagnosis–The student will be able to:
	13.01 Explain what sound is and its characteristics.
	13.02 Compare the difference between pulsed and continuous wave ultrasound.
	13.03 Explain amplitude and intensity of sound as it applies to Sonography.
	13.04 Describe the causes and effects of attenuation and acoustic impedance on ultrasound.
	13.05 Identify the causes and effects of incidence, scattering and refraction of ultrasound.
	13.06 Explain the Doppler Effect as it relates to ultrasound.
	13.07 Describe the factors of attenuation versus depth penetration of ultrasound in human tissue.
	13.08 Identify resolution and controlling factors of resolution as applied to Sonography.
	13.09 Discuss and demonstrate the basic principles governing sound and sound interaction in various types of tissue.
	13.10 Describe and demonstrate the conditions affecting sound transmission such as attenuating factors.
	13.11 Relate mathematical formulas to the interaction of sound with various mediums.
	13.12 Describe resolution and its effect on the final image.
	13.13 Describe and demonstrate the factors that control and determine axial, elevational and lateral resolution.
14.0	Demonstrate knowledge of the basic principles of instrumentation common to the field of ultrasound–The student will be able to:
	14.01 Describe piezoelectric effects.
	14.02 Describe transducer construction.
	14.03 Discuss historical perspectives related to the development of the ultrasound system.
	14.04 Explain and describe how signal processing affects image production and presentations.

	14.05 Discuss basic system operation in the form of block diagrams for real-time and Doppler image production.
	14.06 Describe the purpose and use of typical controls located on ultrasound systems.
	14.07 Identify methods of determining and assuring quality control both sonographically and photographically.
	14.08 Discuss common processing techniques including but not limited to harmonics, persistence, spatial compounding, panoramic imaging, and RES.
	14.09 Discuss causes, detection and control of factors that may create biologic effects in human tissue with insonation at the diagnostic medical sonography exposure level.
15.0	Demonstrate knowledge of the principles of Doppler –The student will be able to:
	15.01 Explain the general principles of Doppler techniques and the Doppler formula.
	15.02 Describe how pulse wave Doppler is processed and displayed.
	15.03 Describe how color-flow Doppler is processed and displayed.
	15.04 Describe how power Doppler is processed and displayed.
	15.05 Identify normal and abnormal Doppler wave forms.
	15.06 Discuss the advantages and disadvantages of the various Doppler methods.
	15.07 Describe the purpose and use of typical controls used to optimize Doppler acquisition and display.
	15.08 Demonstrate skills required on a daily basis in the typical Sonography setting for obtaining and displaying Doppler.
16.0	Apply knowledge gained in instrumentation lecture as it applied to various ultrasound systems in the clinical setting–The student will be able to:
	16.01 Utilize patient information systems.
	16.02 Demonstrate appropriate transducer selection for specific sonographic application.
	16.03 Utilize amplification in all its forms to produce a diagnostic quality sonogram.
	16.04 Utilize power to produce a diagnostic quality sonogram while maintaining the ALARA principle.
	16.05 Utilize the various forms of processing to produce a diagnostic quality sonogram.
	16.06 Utilize the various types of scanning techniques and patient positioning required to produce diagnostic quality sonograms.
	16.07 To explain and recognize typical artifacts as found in sonographic imaging.
	16.08 Utilize test objects and phantoms.

17.0	Apply knowledge of the anatomy and scanning techniques related to retroperitoneal structures and upper abdominal organs and systems–The student will be able to:
17.01	Identify gross abdominal structures as demonstrated by ultrasound such as: the liver, gall bladder, aorta, inferior vena cava, stomach, pancreas, bowel, spleen, lymph nodes, retroperitoneum, and peritoneal cavity.
17.02	Identify the gross upper abdominal organs in two planes.
17.03	Identify the gross retroperitoneal organs, bowel and peritoneum in two planes.
17.04	Explain the physiology of the upper abdominal organs and the related laboratory results.
17.05	Explain the physiology of the retroperitoneal organs, bowel and peritoneum.
17.06	Explain and demonstrate the protocol for sonographic examination of the upper abdominal organs.
17.07	Explain and demonstrate the protocol for sonographic examination of the retroperitoneal organs, bowel and peritoneum.
17.08	Explain the common pathologies related to the upper abdomen including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
17.09	Explain the common pathologies related to the retroperitoneal organs, bowel and peritoneum including the sonographic appearance of these pathologies and corresponding lab values, patient history and symptoms.
17.10	Explain screen orientation and its relationship to the upper abdomen and retroperitoneal structures.
17.11	Describe and perform procedures of a complete ultrasound examination of the upper abdomen from preparation to reporting.
17.12	Describe and perform procedures of a complete ultrasound examination of the bowel, lymph nodes, retroperitoneum, and peritoneal cavity from preparation to reporting.
18.0	Apply knowledge of the anatomy and scanning techniques related to superficial structures–The student will be able to:
18.01	Identify gross superficial structures as demonstrated by ultrasound including but not limited to: the thyroid, scrotum (testicular), abdominal wall, neck, breast, prostate and musculoskeletal.
18.02	Identify superficial structures in two planes.
18.03	Explain the physiology of the superficial structures and the related laboratory results.
18.04	Explain and demonstrate the protocol for the sonographic examination of superficial structures.
18.05	Explain the common pathology related to the superficial structures including the sonographic appearance of these pathologies and corresponding lab values, patient history and symptoms.
18.06	Describe and perform procedures of a complete ultrasound examination of each of the superficial structures from preparation to reporting.
19.0	Apply knowledge of anatomy, pathology, and scanning techniques to the urinary system and adrenal glands–The student will be able to:
19.01	Identify the gross structures of the urinary system as demonstrated by ultrasound including but not limited to the kidney, ureters and urinary bladder.

19.02	Identify the gross organs of the urinary system in two planes.
19.03	Identify the gross adrenals in two planes.
19.04	Explain the physiology of the urinary system organs and the related laboratory results.
19.05	Explain the physiology of the adrenals and the related laboratory results.
19.06	Explain and demonstrate the protocol for sonographic examination of the urinary system organs.
19.07	Explain and demonstrate the protocol for sonographic examination of the adrenals.
19.08	Explain the common pathologies related to the urinary system organs including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
19.09	Explain the common pathologies related to the adrenals including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
19.10	Explain screen orientation and its relationship to the urinary system structures and the adrenals.
19.11	Describe and perform procedures of a complete ultrasound examination of the urinary system from preparation to reporting.
19.12	Describe and perform procedures of a complete ultrasound examination of the adrenals from preparation to reporting.
20.0	Apply knowledge of anatomy, pathology, and scanning techniques used in Sonography of the female pelvis–The student will be able to:
20.01	Identify the gross female pelvic structures as demonstrated by ultrasound including but not limited to the female reproductive organs and urinary bladder.
20.02	Identify the gross female pelvic organs in two planes.
20.03	Explain the physiology of the female pelvic organs and the related laboratory results.
20.04	Explain and demonstrate the protocol for sonographic examination of the female pelvic organs.
20.05	Explain the common pathologies related to the female pelvis including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
20.06	Explain screen orientation and its relationship to the female pelvic structures.
20.07	Describe and perform procedures of a complete ultrasound examination of the female pelvis from preparation to reporting.
20.08	Explain the protocol for both transabdominal and transvaginal pelvic ultrasound.
21.0	Apply knowledge of anatomy, pathology and scanning techniques related to obstetrics–The student will be able to:
21.01	Identify gross obstetrical structures as demonstrated by ultrasound including but not limited to the uterus and adnexa in both the pregnant and postpartum state.
21.02	Discuss anatomy and physiology of the various stages of fetal development as related to ultrasound.

	21.03	Discuss anatomy and physiology of the placenta at all stages of development.
	21.04	Describe the basic stages of embryology and sonographic relationships.
	21.05	Describe events occurring in the first trimester and their relationship to ultrasound.
	21.06	Explain the physiology of organs related to obstetrics.
	21.07	Explain and demonstrate the protocol for sonographic examinations used in obstetrics.
	21.08	Explain the common pathologies related to obstetrics including the sonographic appearance of these pathologies corresponding lab values, patient history and symptoms.
	21.09	Explain screen orientation and its relationship to the organs related to obstetrics.
	21.10	Describe methods for determining gestational age and fetal growth by ultrasound using appropriate biometrics.
	21.11	Explain the effects of specific diseases common to the gestational period.
	21.12	Compare normal and abnormal states of embryology in the human as demonstrated by ultrasound.
	21.13	Perform a biophysical profile to determine fetal well-being.
	21.14	Compare the normal and pathologic appearance of the fetus and the fetal environment.
	21.15	Demonstrate special techniques of ultrasound scanning and collateral processes during pregnancy.
	21.16	Explain the protocol and AIUM guidelines for obstetrical ultrasound.
	21.17	Explain and demonstrate the special safety precautions required during an obstetrical ultrasound with a focus on AIUM guidelines.
	21.18	Describe and perform procedures of a complete obstetrical ultrasound examination from preparation to reporting.
22.0	Develop a continuous awareness of the disease processes–The student will be able to:	
	22.01	Discuss basic concepts of the causes of disease.
	22.02	Discuss common urogenital pathology.
	22.03	Discuss gastrointestinal diseases.
	22.04	Discuss common pathology found in obstetrics and gynocology.
	22.05	Discuss common pathology found in the cardiovascular system.
	22.06	Discuss common pathology found in hepatobiliary system to include: liver, gallbladder, pancreas and spleen.

	22.07	Discuss post-surgical changes and its effects on images.
23.0	Apply accumulated knowledge to the process of creating diagnostic sonograms–The student will be able to:	
	23.01	Complete in all aspects a diagnostic sonogram with emphasis on:
		23.01.01 patient identification
		23.01.02 patient interaction
		23.01.03 professionalism
		23.01.04 creation of an optimized sonogram
		23.01.05 appropriate image annotation
		23.01.06 safety
		23.01.07 recognition of anatomy, both normal and pathologic.
	23.02	Complete routine documentation associated with a typical ultrasound department.
	23.03	Present a sonographic exam to the interpreting physician in completed form.
24.0	Apply skills needed to complete diagnostic images of high quality from a variety of scanning units–The student will be able to:	
	24.01	Perform complete and diagnostic examinations of the abdomen, superficial structures, pelvis and obstetrical patient using real-time and Doppler techniques using a variety of ultrasound machines.
	24.02	Present completed examinations in detail with justification of all techniques, methods and procedures used to obtain data.
	24.03	Identify gross pathology of the abdomen, pelvis and obstetrical patient, both on sonograms and related imaging modalities.
	24.04	Perform all preliminary procedures leading to actual examination by Sonography and all procedures necessary post examination.
	24.05	Demonstrate skills needed to relate with tact and diplomacy with patients, physicians, nurses, other imaging personnel and the general hospital population.
	24.06	Demonstrate those characteristics that reflect the high degree of professionalism associated with the field of ultrasound.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program should meet the requirements of:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
361 Park St.
Clearwater, FL 33756
(727) 210-2350

Written clinical affiliation agreements must be maintained with each health care facility. Health care facilities must be accredited by The Joint Commission.

Students completing this program may apply to take one or both of the national registry examinations to obtain certification, for further information contact:

American Registry of Diagnostic
Medical Sonographers (ARDMS)
51 Monroe St., Plaza East 1
Rockville, Maryland 20850-2400
(301) 738-8401

Or

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155
(612) 687-0048

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Diagnostic Medical Sonography Specialist (New) (0351091005) – 47 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Laboratory Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351100405
Program Type	College Credit
Standard Length	76 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2011 Medical and Clinical Laboratory Technologists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as medical/clinical laboratory technologist SOC Code 29-2011 (medical clinical laboratory technologist) or medical laboratory technologists (associate degree) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to specific techniques and instruments, identification of factors directly affecting procedures and results, confirmation of results and monitoring quality control programs within pre-determined parameters, and correction of errors using pre-set standards. A clinical component is a necessary element of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 76 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate accepted professional, communication and interpersonal skills.
13.0 Discuss phlebotomy in relation to the health care setting.
14.0 Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
15.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
16.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
17.0 Practice infection control following standard precautions.
18.0 Practice accepted procedures of transporting, accessioning and processing specimens.
19.0 Practice quality assurance and safety.
20.0 Demonstrate knowledge and use of basic laboratory equipment and techniques.
21.0 Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived).
22.0 Demonstrate basic knowledge of and perform Point of Care (POC) Testing using CLIA approved Waived instrumentation.
23.0 Discuss the general responsibilities and functions encountered by a medical technician.
24.0 Apply quality assurance principles and safety protocols.
25.0 Demonstrate knowledge of the operation of computer systems.
26.0 Demonstrate an understanding of the basic principles of molecular diagnostics.
27.0 Demonstrate knowledge of urinalysis and body fluids principles and procedures.
28.0 Demonstrate knowledge of hematological principles and procedures.
29.0 Demonstrate knowledge of hemostasis and related diagnostic principles and procedures.
30.0 Demonstrate knowledge of immunology principles and procedures.
31.0 Demonstrate knowledge of clinical chemistry principles and procedures.
32.0 Demonstrate knowledge of immunohematology principles and procedures.
33.0 Demonstrate knowledge of microbiological principles and procedures.
34.0 Demonstrate knowledge of advanced hematological principles and procedures.
35.0 Demonstrate knowledge of advanced hemostasis testing.
36.0 Demonstrate knowledge of advanced microbiological principles and procedures.
37.0 Demonstrate knowledge of advanced clinical chemistry principles and procedures.

38.0 Demonstrate knowledge of advanced immunological procedures.
39.0 Demonstrate knowledge of advanced immunohematology principles and procedures.
40.0 Demonstrate and understanding of advanced principles of molecular diagnostics.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Laboratory Technology**
CIP Number: **1351100405**
Program Length: **76 credit hours**
SOC Code(s): **29-2011**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Phlebotomy: (12-19)	
12.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
12.01	Demonstrate the appropriate professional behavior of a phlebotomist.
12.02	Explain to the patient the procedure to be used in specimen collection.
12.03	Explain in detail the importance of identifying patients correctly when drawing blood.
12.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
12.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
12.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
13.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
13.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.
13.02	Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.

	13.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
14.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:
	14.01 Describe and define major body systems with emphasis on the circulatory system.
	14.02 List and describe the main superficial veins used in performing venipuncture.
	14.03 Locate the most appropriate sites(s) for capillary and venipuncture.
	14.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	14.05 Compare and contrast between serum and plasma as it relates to blood collection.
	14.06 Discuss hemostasis as it relates to blood collection.
15.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	15.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
	15.02 Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
	15.03 Identify and discuss proper use of supplies used in collecting micro-specimens.
	15.04 Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	15.05 Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	15.06 Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	15.07 Define and utilize correct medical terminology and metric measurement needed for specimen collection.
16.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
	16.01 Follow approved procedure for completing a laboratory requisition form.
	16.02 Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	16.03 Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).
	16.04 Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	16.05 List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.

	16.06	Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
	16.07	Describe the correct order of draw.
	16.08	Describe the use of barcoding systems used for specimen collection.
	16.09	Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
	16.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
	16.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
	16.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
	16.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	16.14	Demonstrate the proper procedure for collecting blood cultures.
	16.15	Discuss the effects of hemolysis and methods of prevention.
	16.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
17.0	Practice infection control following standard precautions. – The student will be able to:	
	17.01	Define the term "nosocomial/ hospital acquired infection."
	17.02	Describe and practice procedures for infection prevention including hand washing skills.
	17.03	Discuss and perform transmission based precautions.
	17.04	Identify potential routes of infection and their complications.
18.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:	
	18.01	Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
	18.02	Demonstrate knowledge of accessioning procedures.
	18.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
	18.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
19.0	Practice quality assurance and safety. – The student will be able to:	
	19.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.

19.02	Demonstrate knowledge of and practice appropriate patient safety.
19.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
19.04	Follow documentation procedures for work related accidents.
19.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.
Medical Laboratory Technician: (20-33)	
20.0	Demonstrate knowledge and use of basic laboratory equipment and techniques. .-The student will be able to
20.01	Identify the parts of the microscope and explain the function of each.
20.02	Demonstrate the proper technique for operation of the microscope.
20.03	Demonstrate use of standard laboratory equipment including glassware, pipettes and centrifuge.
20.04	Perform basic laboratory math calculations.
20.05	Apply principles of quality assurance to correct problems encountered in monitoring daily quality control.
20.06	Evaluate laboratory findings and take necessary action to confirm or clarify results according to standard operation and procedure.
20.07	Demonstrate knowledge of operation and principles of laboratory instruments.
21.0	Demonstrate the basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived)- The student will be able to
21.01	Demonstrate the ability to interpret instructions of point of care testing including , but not limited to the following:
	121.01 Test principle
	221.01 Storage & Stability
	321.01 Internal vs. External Quality Control
	421.01 Specimen collection & preparation
	521.01 Directions for use
	621.01 Interpretation of results
	721.01 Interfering substances
21.02	Demonstrate and discuss knowledge of lot numbers use and importance in regard to both kits and reagents.

	21.03 Demonstrate knowledge of the frequency in which quality control procedures should be performed.
	21.04 Explain the CLIA 88 classification of laboratory testing into waived, moderate, and highly complex including the personnel qualified to perform each.
22.0	Demonstrate basic knowledge of and perform Point of Care(POC) Testing using CLIA approved Waived instrumentation- The student will be able to
	22.01 Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.
	22.02 Demonstrate competence in instrument maintenance.
	22.03 Demonstrate knowledge of quality control and calibrations involved within the POC instruments.
	22.04 Identify normal limits and associate abnormal results with disease or disorders.
	22.05 Discuss the significance of reporting critical values as it applies to Point of Care testing.
23.0	Discuss the general responsibilities and functions encountered by a medical technician–The students will be able to:
	23.01 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions.
	23.02 Organize and communicate the results obtained by observation and experimentation.
	23.03 Demonstrate ability to evaluate and draw conclusions.
	23.04 Demonstrate ability to report observations in written or oral form.
	23.05 Discuss the licensure and certification requirements of the major classifications of clinical laboratory personnel.
24.0	Apply quality assurance principles and safety protocols–The student will be able to:
	24.01 Recognize specimen suitability and determine need for rejection/recollection using factors described in clinical protocol.
	24.02 Describe special procedures for transporting and processing specimens.
	24.03 Describe clinical laboratory role in providing quality assurance in laboratory testing, reporting, and use and maintenance of equipment.
	24.04 Demonstrate required calibration procedures.
	24.05 Demonstrate and record quality control procedures required for the tests performed and recognize unacceptable results.
	24.06 Report identified problems encountered in daily quality control according to standard operating procedures.
	24.07 Comply with current OSHA regulations regarding laboratory hazards.
25.0	Demonstrate knowledge of the operation of computer systems–The student will be able to:

	25.01 Discuss the role of computer systems in laboratory data management.
	25.02 Demonstrate knowledge of common computer terminology.
	25.03 Demonstrate entry level computer operations for specimen accessioning, data reporting, and quality control recording.
	25.04 Demonstrate entry level operational skills in the use of computer-interfaced analytical instrumentation.
26.0	Demonstrate an understanding of the basic principles of molecular diagnostics. .-The student will be able to
	26.01 Discuss the principles and major steps of the polymerase chain reaction (PCR).
	26.02 Label the organelles and important parts of a eukaryotic animal cell.
	26.03 Describe the function of the organelles and important parts of a eukaryotic animal cell.
	26.04 Discuss the structure, function, and components of DNA and RNA.
	26.05 Define the key terms of molecular diagnostics.
	26.06 Understand the principles of molecular diagnostic testing.
	26.07 Compare the advantages and disadvantages of molecular techniques over traditional diagnostic tests for infectious diseases.
	26.08 List molecular tests associated with the identification of microorganisms.
	26.09 Identify the types of samples appropriate for molecular diagnostics.
	26.10 Discuss the ethical impact of genetic technologies on the delivery of health care.
	26.11 Outline requirements for reducing contamination in a molecular lab.
	26.12 Discuss nucleic acid probes and their role in clinical laboratory diagnostics.
27.0	Demonstrate knowledge of urinalysis and body fluids principles and procedures. –The student will be able to:
	27.01 Identify the components of the urinary system and explain their functions.
	27.02 Discuss diseases affecting the urinary system.
	27.03 Describe collection, transport and storage procedures for random and timed urine specimens.
	27.04 Discuss physical properties related to normal and abnormal components of the urine including related odors, color.
	27.05 Discuss specific gravity techniques; calibration and use of the refractometer.

	27.06	Perform dipstick or tablet (nonautomated) urinalysis techniques for chemical exam of the urine and interpret results
	27.07	Demonstrate the proper use of urine strip readers.
	27.08	Describe renal function tests.
	27.09	Describe principles of and perform routine physical and chemical analyses on urine.
	27.10	Prepare urine sediments and perform identification and quantitation of microscopic formed elements.
	27.11	Correlate abnormal physical, chemical and microscopic urine results with associated pathological conditions.
	27.12	Define and discuss the differences between transudates and exudates.
	27.13	Discuss miscellaneous body fluids to include cerebral spinal, seminal and joint fluids.
	27.14	Perform physical, chemical and microscopic evaluations of common body fluids.
28.0	Demonstrate knowledge of hematological principles and procedures–The student will be able to:	
	28.01	Discuss the organs, cells and cellular interaction of the lymphoid, myeloid and reticuloendothelial systems.
	28.02	Demonstrate an understanding of basic concepts of hematopoietic regulation, proliferation and cellular differentiation.
	28.03	Identify the components of blood.
	28.04	Discuss the function of formed elements of blood.
	28.05	Demonstrate an understanding of the synthesis of normal and abnormal molecular structure of hemoglobin, common hemoglobinopathies and associated tests.
	28.06	Describe normal hemoglobin-oxygen function using the Oxygen Dissociation Curve (ODC).
	28.07	Discuss assessment and impact of preanalytical, analytical and post-analytical factors on hematology testing.
	28.08	Discuss techniques of hematology related to calculation of red blood cell indices.
	28.09	Discuss selected cytochemical staining and flowcytometry procedures.
	28.10	Perform standard operational procedures to evaluate erythrocytes and their physical properties using patient blood and quality control samples.
	28.11	State the review process of histogram/scatterplot/scattergram analysis.
	28.12	Describe the categories used in a morphological classification of anemias.
	28.13	Correlate automated hemogram parameter for red cell indices with peripheral exam of blood smear.

	28.14	List the maturation sequence and identify distinguishing morphology for stages of developing white blood cells or leukocytes using stained smears, photographs, electronic images or other visual means of representation.
	28.15	Discuss normal and abnormal hematology findings, reference ranges and associated diseases.
	28.16	Demonstrate an understanding of,normal and abnormal white cell morphology, related disease states and associated tests.
	28.17	Discuss the principles of and perform routine hematology procedures applying quality control procedures.as necessary.
	28.18	Perform commonly used methods to evaluate leukocytes, correlate and verify automated cell counts with established criteria.
	28.19	Identify the criteria used to classify nonmalignant leukocytic disorders, e.g. shift to the left, toxic granulation, Döhle bodies, etc.
	28.20	Perform techniques of manual blood smear evaluation including white blood cell differential, red cell and platelet morphology.
	28.21	Correlate peripheral blood evaluation with automated cell analysis.
	28.22	Perform platelet counts on patient and control specimens using manual and automated techniques and correlate counts with peripheral smear.
29.0	Demonstrate knowledge of hemostasis and related diagnostic principles and procedures–The student will be able to:	
	29.01	Discuss and define the interactive systems necessary to maintain hemostasis.
	29.02	Discuss common coagulopathies and associated treatments and therapies.
	29.03	Discuss assessment and impact of preanalytical factors on hemostasis testing
	29.04	Describe the principles of and perform routine testing used in the evaluation of the vascular, platelet, coagulation and fibrinolytic systems.
	29.05	Discuss additional hemostasis tests performed to differentiate the cause of abnormal routine tests.
30.0	Demonstrate knowledge of immunology principles and procedures–The student will be able to:	
	30.01	Discuss the functions of the cells of the immune system, cytokines and regulatory molecules.
	30.02	Discuss physical and chemical properties of immunogens (antigens), immunoglobulins (antibodies) and complement
	30.03	Describe their roles in both *in vivo* and *in vitro* reactions.
	30.04	Compare and contrast the principles of basic agglutination, flocculation and precipitation procedures in immunology/serology.
	30.05	Perform basic procedures in immunology/serology.
	30.06	Discuss principles of, immunoelectrophoresis, immunofixationand enzyme immunoassay.
	30.07	Discuss the clinical significance of the commonly performed immunology/ tests.

	30.08 Discuss selected specialty serological tests such as immuno assays.
31.0	Demonstrate knowledge of clinical chemistry principles and procedures–The student will be able to:
	31.01 Identify the chemistry analytes used to evaluate various body systems.
	31.02 Discuss the renal system and related chemistry tests.
	31.03 Discuss principles of and perform common renal function tests.
	31.04 Discuss carbohydrate, protein and lipid metabolism.
	31.05 Discuss principles of and perform commonly ordered tests related to carbohydrate, protein and lipid metabolism.
	31.06 Discuss the liver and its functions as related to chemistry tests.
	31.07 Discuss principles of and perform commonly ordered liver function tests.
	31.08 Discuss enzyme classification, origin, activity and function.
	31.09 Discuss principles of and perform commonly ordered enzyme procedures.
	31.10 Discuss electrolyte balance as related to health and disease.
	31.11 Discuss principles of and perform electrolyte analyses.
	31.12 Discuss principles of and perform commonly ordered tests to evaluate cardiac function.
	31.13 Discuss the physiology of the endocrine system and the principal tests used to evaluate endocrine function.
	31.14 Discuss the role of the laboratory in therapeutic drug monitoring and toxicology.
	31.15 Discuss and perform general electrophoresis techniques.
	31.16 Discuss the clinical significance of commonly ordered chemistry tests.
	31.17 Demonstrate knowledge of principles of instrumentation as related to the clinical chemistry laboratory.
	31.18 Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.
	31.19 Discuss techniques of clinical chemistry related to visual colorimetry; calibration and use of the spectrophotometer.
	31.20 Discuss basic techniques of clinical chemistry related to normal and abnormal physiology.
32.0	Demonstrate knowledge of immunohematology principles and procedures–The student will be able to:

32.01	Discuss donor interview, criteria for selection, phlebotomy preparation, and donor blood processing.
32.02	Discuss blood component collection and, preparation, storage and use.
32.03	Describe the roles of FDA, AABB, and state agencies and how to contact each.
32.04	Compare advantages and disadvantages for autologous, versus homologous (allogenic) blood collection and transfusion.
32.05	Discuss basic genetics of the blood group antigens
32.06	Discuss the ABO and Rh blood group systems and differentiate by using appropriate testing procedures.
32.07	Describe required tests on recipient blood samples and recognize discrepancies of ABO typing results.
32.08	Discuss and differentiate other blood group systems such as Duffy, Kell, Kidd, S,s, Lu and the common usually cold-reacting antibodies such as Le, P, I, M and N.
32.09	Perform antigen and antibody testing to determine Rh phenotypes.
32.10	Apply properties of blood group antigens to perform and interpret antibody screening.
32.11	Perform identification tests to detect clinically significant antibodies.
32.12	Discuss the safety and determine compatibility of blood components for transfusion.
32.13	Discuss and perform routine compatibility testing including the immediate spin crossmatch and the electronic crossmatch.
32.14	Discuss and perform red cell antigen typing on recipient donor specimens.
32.15	Identify symptoms of and required laboratory protocol for handling suspected transfusion reactions.
32.16	Discuss immune hemolytic disorders and perform the direct antiglobulin test.
32.17	Discuss appropriate absorption and elution techniques.
32.18	Verify appropriate quality control (QC) on reagents.
32.19	Describe the immune process which causes hemolytic disease of the fetus and newborn.
33.0	Demonstrate knowledge of microbiological principles and procedures–The student will be able to:
33.01	Discuss microbial taxonomy and nomenclature.
33.02	Discuss bacterial metabolism, reproduction, cell structures and their functions.
33.03	Discuss classification, composition and preparation of culture media.

33.04	Discuss the human pathogenesis of bacteria.
33.05	Discuss and perform techniques of microbiology related to sterilization techniques.
33.06	Perform culturing techniques for urine, stool, wound, throat, body fluids, blood and exudates.
33.07	Perform techniques of microbiology related to inoculation and transfer of cultures.
33.08	Discuss the principles of Gram and AFB stains.
33.09	Accurately perform, read and report gram stains.
33.10	Perform techniques necessary for isolation and identification of aerobic and anaerobic bacterial organisms.
33.11	Identify commonly encountered aerobic bacteria through morphological, physical and biochemical properties.
33.12	Perform and interpret antibiotic susceptibility tests.
33.13	Discuss collection and handling of specimens for fungal, mycobacterial and viral culture.
33.14	Prepare and examine specimens, and identify ova and parasites when present.
Medical Laboratory Technology (Associate Degree) - The following intended outcomes (34-40), in addition to the outcomes for the program of Medical Laboratory Technology (Certificate), complete the competencies for the Medical Laboratory Technology (Associate Degree) program.	
34.0	Demonstrate knowledge of advanced hematological principles and procedures–The student will be able to:
34.01	Correlate histogram/scatterplot/scattergram review to differential results.
34.02	Describe the categories used in etiological classification of anemias.
34.03	Perform procedures, apply appropriate quality control procedures, recognize and follow up, within pre-established reporting guidelines, laboratory procedures used in the identification, classification and differentiation of neoplastic disorders.
34.04	Perform selected cytochemical staining procedures.
34.05	Discuss the basic principles and applications of flow cytometry.
34.06	Discuss the principle of hemoglobin electrophoresis with pattern interpretation.
35.0	Demonstrate knowledge of advanced hemostasis testing–The student will be able to:
35.01	Discuss the principle of substitution testing for factor deficiencies.

	35.02 Correlate the laboratory test results for fibrinolysis with conditions affecting the fibrinolytic system.
	35.03 Perform additional hemostasis tests performed to differentiate the cause of abnormal routine tests.
	35.04 Correlate laboratory results with possible inherited and/or acquired coagulation abnormalities.
36.0	Demonstrate knowledge of advanced microbiological principles and procedures–The student will be able to:
	36.01 Discuss procedures for and clinical significance of anaerobe identification.
	36.02 Classify fungi and state their clinical significance.
	36.03 Perform general techniques used in identifying fungi.
	36.04 Identify selected fungi.
	36.05 Discuss and perform automated microbiological procedures.
	36.06 Identify life cycles, modes of transmission, prevention and pathophysiology of clinically significant parasites.
	36.07 Discuss microbial and immunological techniques to identify selected clinically significant viruses.
	36.08 Discuss classification and related disease states of clinically significant viruses.
	36.09 Identify commonly used antibiotics, their usage and mechanisms of activity.
37.0	Demonstrate knowledge of advanced clinical chemistry principles and procedures–The student will be able to:
	37.01 Perform, calculate, analyze and recognize normal/abnormal electrophoresis procedures.
	37.02 Perform and calculate results of immunoassay procedures.
	37.03 Perform, calculate, and recognize associated disease states for selected isoenzyme assays.
	37.04 Perform, calculate, and recognize associated disease states for blood lipid profiles.
	37.05 Perform and calculate selected procedures related to endocrine function.
	37.06 Perform selected assays for therapeutic and toxic substances.
	37.07 Discuss the principles and procedures of blood gas analysis, including arterial specimen collection and clinical significance.
38.0	Demonstrate knowledge of advanced immunological procedures–The student will be able to:
	38.01 Perform selected specialty serological tests such as immunofluorescence assays.

	38.02	Discuss, perform and interpret antinuclear antibody patterns and their relationship to disease states.
	38.03	Discuss MHC and HLA proteins and the application to transplant technology and rejection.
39.0	Demonstrate knowledge of advanced immunohematology principles and procedures–The student will be able to:	
	39.01	Resolve questions regarding donor suitability.
	39.02	Analyze the various parameters of required testing of donor blood according to AABB Standards.
	39.03	Describe the preparation and use of washed red cells, leukocyte-reduced red cells and platelet concentrations from donor units.
	39.04	Describe the preparation and use of cryoprecipitate and fresh frozen plasma.
	39.05	Describe the principle and use of the antiglobulin test, both direct and indirect methods, including the purpose for using IgG sensitized cells.
	39.06	Perform methods of adsorption and elution techniques.
	39.07	Perform procedures for identification of multiple antibodies in recipient specimen including enzyme enhancement, dosage, temperature and complement binding.
	39.08	Determine appropriate dosage of Rh Immune Globulin based on test results.
	39.09	Interpret the preliminary investigation results to determine whether a transfusion reaction has occurred.
40.0	Demonstrate and understanding of advanced principles of molecular diagnostics–The student will be able to:	
	40.01	Describe the steps used to prepare genomic DNA from blood and buccal cells.
	40.02	Describe the process of Fluorescent In Situ Hybridization (FISH).
	40.03	Compare and contrast real time PCR and conventional PCR.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical learning experiences in a clinical laboratory and related areas are an integral part of this program. Clinical learning experiences should reflect the full breadth of responsibilities expected of a Medical Laboratory Technician and should include appropriate experience in each of the areas of the laboratory described herein. The specified length for each of the courses listed is inclusive of clinical experience for each of the respective laboratory sections.

Special Notes

The following ATD programs have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Medical Clinical Laboratory Technician –ATD (0351100404/0351100401) - 40 credits

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Registered Phlebotomy Technician (RPT) (AMEDT005)- 3 credits

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Histologic Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351100800
Program Type	College Credit
Standard Length	76 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2011 Medical and Clinical Laboratory Technologists

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as tissue technologists SOC Code 29-2011 (Medical and Clinical Laboratory Technologists) or histotechnicians or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to preparation of tissue specimens of human and animal origin for research, teaching purposes, or diagnosis of body dysfunction and malignancy. A clinical component is a necessary element of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 76 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Identify the anatomic structure and function of body systems in relation to disease states and services performed by the histotechnician.
13.0 Practice quality assurance, safety, and acceptable communication skills.
14.0 Adhere to legal and ethical principles related to the practice of histotechnology.
15.0 Demonstrate knowledge of histology laboratory operations related to accessioning.
16.0 Demonstrate knowledge of histology laboratory operations related to grossing.
17.0 Demonstrate knowledge of histology laboratory operations related to tissue processing.
18.0 Demonstrate knowledge of histology laboratory operations related to embedding.
19.0 Demonstrate knowledge of histology laboratory operations related to microtomy.
20.0 Perform tissue preparation techniques.
21.0 Maintain histology laboratory equipment.

Florida Department of Education
Student Performance Standards

Program Title: **Histologic Technology**
CIP Number: **1351100800**
Program Length: **76 credit hours**
SOC Code(s): **29-2011**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Histologic Technology: The following intended outcomes complete the occupational completion point for the Histologic Technology program.	
12.0	Identify the anatomic structure and function of body systems in relation to disease states and services performed by the Histotechnician–The student will be able to:
12.01	Demonstrate knowledge of human anatomy and physiology as related to Histotechnology.
12.02	Demonstrate knowledge of normal histology of human organs.
12.03	Demonstrate knowledge of various methods of obtaining histological specimens from patients.
12.04	Identify tissue structures and cellular components; relate both to physiological functions.
12.05	Demonstrate knowledge of types of histological specimens usually submitted for gross and microscopic examination or submitted for gross description only.
12.06	Demonstrate knowledge of the processing of histologic specimens especially as related to disease processes.
12.07	Demonstrate knowledge of tissue processing methods and schedules, depending on tissue type and size including variety of fixatives used and how each relates to different tissue components and the disease process to be diagnosed.
13.0	Practice quality assurance, safety and acceptable communication skills–The student will be able to:
13.01	Practice quality control in the histology laboratory as required by the accrediting agency.

	13.02 Follow institutional policies and procedures related to safety.
	13.03 Demonstrate knowledge of medical terminology.
	13.04 Recognize errors and their sources, and take corrective action.
	13.05 Demonstrate knowledge of chemical hazards and acceptable exposure limits within the histopathology laboratory.
	13.06 Demonstrate knowledge of proper disposal methods for all chemical and biological waste within the histopathology laboratory with emphasis on both state and local requirements.
	13.07 Implement procedures to meet regulatory and accreditation agency patient safety guidelines.
14.0	Adhere to legal and ethical principles related to the practice of Histotechnology–The student will be able to:
	14.01 Practice discretion and confidentiality with protected health information in regard to laboratory reports, requisitions and computer monitors.
	14.02 Demonstrate knowledge of the Histotechnician's role and responsibilities in relation to the health care team.
	14.03 Demonstrate knowledge of the legal ramifications of pathology practice of laboratory medicine.
15.0	Demonstrate knowledge of histology laboratory operations related to accessioning. –The student will be able to:
	15.01 Demonstrate the understanding of evaluation of acceptable specimen protocol including proper patient identification.
	15.02 Recognize specimens submitted for special studies (i.e. Immunofluorescence, Quantitative Iron).
	15.03 Verify positive patient ID.
16.0	Demonstrate knowledge of histology laboratory operations related to grossing. –The student will be able to:
	16.01 Demonstrate knowledge of fixation types and volume to size.
	16.02 Demonstrate the need for accurate labeling of cassettes with accession number and sub-parts in relation to gross description.
	16.03 Perform accurate and precise gross descriptions according to standard grossing protocol.
	16.04 Demonstrate knowledge of loss prevention for small specimens (i.e. Sponges, lens paper, biopsy bags.)
	16.05 Demonstrate knowledge of minute fragments-cell block procedures.
	16.06 Demonstrate knowledge of decalcification procedures by specimen type.
	16.07 Triage specimens for size for appropriate tissue processing schedules.
17.0	Demonstrate knowledge of histology laboratory operations related to tissue processing. –The student will be able to:

	17.01 Demonstrate knowledge of the types of tissue processors including routine, microwave and rapid.
	17.02 Perform the operation and maintenance of equipment.
	17.03 Perform the preparation of a reagent.
	17.04 Create tissue processing schedules by size and tissue type.
	17.05 Perform the maintenance reagents including changing and rotation.
	17.06 Demonstrate knowledge of various paraffin types including additives and melting points.
18.0	Demonstrate knowledge of histology laboratory operations related to embedding. –The student will be able to:
	18.01 Recognize adequacy of tissue processing and rectify if possible.
	18.02 Recognize special instructions given from the gross team.
	18.03 Verify the number of pieces and cassettes submitted.
	18.04 Select the appropriate size of mold for the size of tissue being embedded.
	18.05 Perform the proper orientation of tissue pieces (i.e. Punch biopsies, tubes, veins).
	18.06 Apply knowledge of the prevent air bubbles and multi-layering of paraffin.
	18.07 Apply quality control measures for the temperatures of paraffin including daily recording.
19.0	Demonstrate knowledge of histology laboratory operations related to microtomy. –The student will be able to:
	19.01 Demonstrate the use of microtomy tools and microtomes including alignment and angles, and proper disposal of blades.
	19.02 Demonstrate proper blade selection based on characteristics including disposable, high or low profile, or re-sharpen.
	19.03 Select the appropriate thickness of sections for routine specimens and special procedures.
	19.04 Identify the number of slides and levels per block as indicated.
	19.05 Demonstrate techniques for facing/trimming into blocks for full section.
	19.06 Perform slide selection for all specimen types including slides with adhesives for bones and nails.
20.0	Perform tissue preparation techniques–The student will be able to:
	20.01 Demonstrate an understanding of the need for proper histologic specimen identification.

	20.02 Perform the clinically appropriate preparation and histochemical staining techniques when ordered by the pathologist.
	20.03 Identify and troubleshoot problems encountered in histological staining and reagent preparation procedures.
	20.04 Demonstrate the knowledge of the current methods of immunohistochemistry procedures for the detection of antigen.
	20.05 Evaluate, validate and implement new preparation and staining procedures.
	20.06 Distinguish between well-prepared and stained and poorly-prepared and stained histologic specimens.
	20.07 Identify tissue structures and their staining characteristics.
	20.08 Demonstrate knowledge of frozen section use and techniques.
21.0	Maintain histology laboratory equipment–The student will be able to:
	21.01 Perform routine maintenance of equipment and instruments within specified limits to include: 21.01.01 Embedding Centers 21.01.02 Tissue processors 21.01.03 Microtomes 21.01.04 Cryostat
	21.02 Refer to appropriate person(s) for complex repairs.
	21.03 Follow procedures for accessibility and maintenance of service records.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Opticianry**
Career Cluster: **Health Science**

AS	
CIP Number	1351180100
Program Type	College Credit
Standard Length	72 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2081 Opticians, Dispensing

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as dispensing opticians, optician apprentices, dispensing), opticians: dispensing and measuring SOC Code 29-2081 (Opticians, Dispensing) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to lens surfacing, finishing and mounting; dispensing of completed prescriptions; fitting contact lenses; frame repair, business management techniques and human relations.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 72 credit hours.

Regulated Programs

The program must be approved by the:

Commission on Opticianry Accreditation
1011 Martin Luther King Highway, Suite 100
Bowie, Maryland 20720
(301) 459-8075

Graduates of a recognized program with an A.S. Degree are eligible to take the Florida optician licensure examination administered by the Department of Business and Professional Regulation for the Board of Opticianry (Chapter 484 F.S. Rule Chapter 21, F.A.C.).

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Surface ophthalmic lenses.
13.0 Edge and finish lenses.
14.0 Insert and mount lenses.
15.0 Select and order frames and lenses.
16.0 Fit and dispense prescriptions.
17.0 Fit contact lenses.
18.0 Repair frames.
19.0 Demonstrate knowledge of office management.
20.0 Practice effective business management operation techniques.
21.0 Demonstrate knowledge of anatomy and physiology of the eye.
22.0 Demonstrate knowledge of the effects ophthalmic devices have in correcting the errors of human vision.
23.0 Practice technical and business computer functions.

Florida Department of Education
Student Performance Standards

Program Title: **Optician**
CIP Number: **1351180100**
Program Length: **72 credit hours**
SOC Code(s): **29-2081**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Optician: The completion of standards 12-23 has met the requirements for the occupational exit of Dispensing Optician.	
12.0	Surface ophthalmic lenses–The student will be able to:
	12.01 Demonstrate knowledge of layout single vision and multi-focal lenses.
	12.02 Demonstrate knowledge of grind, fine and polish single vision lenses and/or multi-focal lenses.
	12.03 Demonstrate knowledge of select lenses and supplies.
	12.04 Inspect lenses.
13.0	Edge and finish lenses–The student will be able to:
	13.01 Layout and block lenses.
	13.02 Machine and hand edge lenses.
	13.03 Inspect lenses.
	13.04 Demonstrate knowledge of air temper glass lenses.
	13.05 Demonstrate knowledge of chemical temper glass lenses.

	13.06 Tint hard resin lenses.
	13.07 Select appropriate lenses.
14.0	Insert and mount lenses–The student will be able to:
	14.01 Insert lenses into zyl frames.
	14.02 Insert lenses into metal frames.
	14.03 Mount lenses into rimless and semi-rimless mountings or other appropriate designs.
	14.04 Perform final inspection of eye glasses.
	14.05 Demonstrate knowledge of lens accessories.
15.0	Select and order frames and lenses–The student will be able to:
	15.01 Analyze written prescriptions.
	15.02 Duplicate prescriptions from existing lenses.
	15.03 Evaluate patient's life-style needs.
	15.04 Use selected instruments to assist in the calculation of fitting measurements.
	15.05 Calculate lens size and availability.
	15.06 Discuss charges with patients.
	15.07 Demonstrate knowledge of managed vision care procedures.
	15.08 Order lenses and frames.
16.0	Fit and dispense prescriptions–The students will be able to:
	16.01 Verify finished prescriptions to specifications.
	16.02 Align frames.
	16.03 Adjust and fit optical devices to patients.
17.0	Fit contact lenses–The student will be able to:
	17.01 Analyze prescriptions.

	17.02 Evaluate patient suitability.
	17.03 Use selected instruments to conduct and assess fittings.
	17.04 Identify types of contact lenses.
	17.05 Conduct patient training.
	17.06 Outline potential complications.
	17.07 Conduct follow-up evaluations.
18.0	Repair frames–The student will be able to:
	18.01 Restore finish and replace/repair decorative trim on frames.
	18.02 Replace/repair nose pieces on zyl or metal frames.
	18.03 Demonstrate knowledge of soldering metal frames.
	18.04 Replace/repair temples, front pieces, monofilament, and broken hinges.
	18.05 Reshape damaged frames to lenses.
	18.06 Modify frames for special needs.
19.0	Demonstrate knowledge of office management–The student will be able to:
	19.01 Demonstrate knowledge of legal and ethical standards of vision care professionals.
	19.02 Maintain and file patient records
	19.03 Demonstrate knowledge of managed vision care, including the billing and collection of current and overdue accounts.
	19.04 Practice office supply control.
20.0	Practice effective business management operation techniques–The student will be able to:
	20.01 Develop a small business plan of operation.
	20.02 Develop an office policy/procedure manual.
	20.03 Demonstrate knowledge of business finance and operating expenses.
	20.04 Set up a pay scale and benefit program for employees and a bookkeeping system.

	20.05 Demonstrate knowledge of tax forms, payroll records, insurance needs and inventory needs.
	20.06 Demonstrate knowledge of employee hiring and orientation.
	20.07 Demonstrate knowledge of processes to resolve customer complaints.
	20.08 Demonstrate a working knowledge of basic compliance laws related to Opticianry.
21.0	Demonstrate knowledge of anatomy and physiology of the eye–The student will be able to:
	21.01 Demonstrate understanding of the interrelationships between body systems.
	21.02 Diagram and explain the anatomy of the visual system.
	21.03 Recognize and discuss physiological conditions of the eye.
22.0	Demonstrate knowledge of the effects ophthalmic devices have in correcting the errors of human vision–The student will be able to:
	22.01 Demonstrate knowledge of basic mathematical principles that are involved in ophthalmic and geometrical optics.
	22.02 Describe the influence of thick and thin prisms on the behavior of light.
	22.03 Apply the principles of light acting on curved single refracting surface to the optic of ophthalmic lenses for parallel and nonparallel light.
	22.04 Describe the relationship and optical properties of cylindrical lenses.
	22.05 Demonstrate knowledge of the theory of lens surface power measuring devices.
	22.06 Create and eliminate prismatic effect by decentration.
	22.07 Demonstrate the influence of lens thickness and surface curvature.
23.0	Practice technical and business computer functions–The student will be able to:
	23.01 Demonstrate knowledge of technical computer functions.
	23.02 Demonstrate knowledge of practice management software and business applications of computers.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The cooperative method of instruction is appropriate for this program. When the cooperative method is offered, the following is required for each student: a training plan signed by the student, instructor and employer which includes instructional objectives and a list of on-the-job and in-school learning experiences; a work station which reflects equipment, skills, and tasks which are relevant to the occupations which the student has chosen as a career goal. Students must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as

instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Ophthalmic Laboratory Technician (CCC - 0351100600) – 24 credit hours
Eye Care Technician (CCC - 0351180302) – 48 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Optical Management**
Career Cluster: **Health Science**

AS	
CIP Number	1351180202
Program Type	College Credit
Standard Length	60 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11-9111 Medical and Health Services Managers

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as an Optical Manager, SOC Code 11-9111 (Medical and Health Services Managers) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of management, personnel management, and general business procedures.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 60 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Apply supervision skills.
13.0 Communicate effectively in supervision.
14.0 Manage human behavior.
15.0 Motivate one's self.
16.0 Motivate others.
17.0 Apply strategies for effective management.
18.0 Utilize creative thinking to achieve business objectives.
19.0 Apply basic decision making skills in supervision.
20.0 Demonstrate appropriate communication skills.
21.0 Demonstrate appropriate math skills.
22.0 Demonstrate an understanding of basic science as it relates to management.
23.0 Demonstrate an understanding of entrepreneurship.
24.0 Demonstrate knowledge of data processing activities.
25.0 Identify, classify and demonstrate management functions.
26.0 Apply basic quality control principles.
27.0 Demonstrate an understanding of technical or industrial competencies.

Florida Department of Education
Student Performance Standards

Program Title: **Optical Management Technology**
CIP Number: **1351180202**
Program Length: **60 credit hours**
SOC Code(s): **11-9111**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Optical Management (12-27)	
12.0	Apply supervision skills–The student will be able to:
12.01	Specify the responsibilities of the supervisor.
12.02	Practice human relations skills.
12.03	Follow leadership principles and approaches.
12.04	Apply positive approaches to discipline.
12.05	Conceptualize organizational functions of management.
12.06	Develop organizational plans.
12.07	Follow and teach accepted accident prevention practices.
12.08	Apply elements of delegation.
12.09	Coordinate employee and organization interest.
12.10	Apply techniques of dealing with crisis.

	12.11 Utilize strategies for dealing with interpersonal conflicts.
	12.12 Analyze causes of resistance in employees.
	12.13 Implement the agreement finding process.
	12.14 Develop and implement job instructions.
	12.15 Apply delegation procedures.
	12.16 Apply principles of management to employee/ employer conflicts.
13.0	Communicate effectively in supervision–The student will be able to:
	13.01 Solve problems in communicating.
	13.02 Exhibit appropriate habits in person to person communication.
	13.03 Apply listening skills.
	13.04 Discuss the need for accurate pharmacy documentation and recordkeeping.
	13.05 Use communication feedback effectively.
	13.06 Use persuasion skills in communicating.
	13.07 Build credibility in management.
	13.08 React to non-verbal communication.
	13.09 Practice confrontation skills.
	13.10 Write an effective memorandum.
	13.11 Prepare a written technical report.
14.0	Manage human behavior–The student will be able to:
	14.01 Use behavior modification techniques.
	14.02 Practice transactional analysis skills.
	14.03 Establish goals and objectives.
	14.04 Identify and resolve emotional disturbances of workers.

	14.05 Use self-concept building skills.
	14.06 Assess worker and supervisor roles and relationships.
	14.07 Manage worker resistance to change.
	14.08 Diagnose the dynamics involved in performance appraisal.
	14.09 Use appropriate assertiveness skills.
15.0	Motivate one's self–The student will be able to:
	15.01 Build improved attitude and self-confidence.
	15.02 Conceptualize cause and effect relationship.
	15.03 Set personal goals.
	15.04 Apply self-esteem building skills.
	15.05 Diagnose life traps.
	15.06 Apply self-discipline techniques.
	15.07 Determine areas of personal talent.
16.0	Motivate others–The student will be able to:
	16.01 Discuss the self-fulfilling prophesy.
	16.02 Discuss the process of motivation.
	16.03 Apply the hierarchy of human needs to worker motivation.
	16.04 Apply the hierarchy of human needs to worker motivation.
	16.05 Effect job enrichment procedures.
	16.06 Apply attitude enrichment procedures.
	16.07 Discuss the concept of maintainers and motivators.
	16.08 Develop role of trust and credibility in worker motivation.
	16.09 Direct goal setting procedures with workers.

	16.10 Implement participative style of supervision.
17.0	Apply strategies for effective management–The student will be able to:
	17.01 Display knowledge or prescription pricing systems used in pharmacy.
	17.02 Maintain stock inventory.
	17.03 Prepare electronic purchase orders.
	17.04 Receive, store and distribute pharmaceutical supplies.
	17.05 Define industry standards in purchasing pharmaceutical supplies.
18.0	Utilize creative thinking to achieve business objectives–The student will be able to:
	18.01 Explain the difference between a cubic centimeter and a milliliter.
	18.02 Use common pharmaceutical weighing equipment.
	18.03 Use common pharmaceutical volume measurement equipment.
	18.04 Explain the technique of preparing a solution, a suspension, an elixir, and emulsion and an extract.
	18.05 Convert measurements within the apothecary, avoirdupois, and metric systems.
	18.06 Use the following arithmetic procedures: ratio and proportion; percentage.
19.0	Apply basic decision making skills in supervision–The student will be able to:
	19.01 Predict physical and chemical incompatibilities utilizing chemistry properties.
	19.02 Describe electrolyte balances.
	19.03 Relate the general classes, actions, routes, action and side effects of drugs.
	19.04 Identify a listing of usual adult doses of medications and respective contraindications.
20.0	Demonstrate appropriate communication skills–The student will be able to:
	20.01 Read and prepare medication orders correctly.
	20.02 Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.
	20.03 Identify special precautions pertaining to children.

	20.04 Maintain controlled substance inventory.
	20.05 Demonstrate the proper technique of preparing pharmaceutical preparations.
	20.06 Demonstrate the ability to correctly fill and deliver medication cassettes.
	20.07 Collect data from medication administration record and drug use and evaluation form.
	20.08 Identify automated medication dispensing equipment and its proper use.
21.0	Demonstrate appropriate math skills–The student will be able to:
	21.01 Locate correct stock container.
	21.02 Weigh measure, count required individual doses of medication.
	21.03 Label with required information.
	21.04 Operate unit does pre-packet equipment.
	21.05 Place individual dose in appropriate containers, repackage in predetermined quantities.
	21.06 Record prepackage medication data correctly.
	21.07 Define role of technician in quality assurance activities.
22.0	Demonstrate an understanding of basic science as it relates to management–The student will be able to:
	22.01 Compare medication order with label on vial and check expiration date of product.
	22.02 Calculate drug dosage for parenteral use.
	22.03 Identify common drug/drug incompatibilities.
	22.04 Reconstitute parenteral medications.
	22.05 Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.
	22.06 Use aseptic technique to withdraw medication from an ampule.
	22.07 Prepare parenteral solutions.
	22.08 Prepare Total Parenteral Nutrition solutions.
	22.09 Prepare chemotherapeutic agents using proper safety techniques.

	22.10 Demonstrate appropriate technique in the use of specialized equipment such as: laminar flow hoods, filters, pumps, and automated compounders.
	22.11 Place label on IV solution container and keep records.
	22.12 Perform quality control check.
	22.13 Identify storage requirements of reconstituted IV solutions.
23.0	Demonstrate an understanding of entrepreneurship–The student will be able to:
	23.01 Identify basic concepts of the American economic system.
	23.02 Identify basic types and sources of consumer credit.
24.0	Demonstrate knowledge of data processing activities–The student will be able to:
	24.01 Demonstrate the ability to determine the roper priority of work.
	24.02 Prepare a day's schedule for the employer.
	24.03 Choose appropriate action in situations requiring application of business ethics.
	24.04 Choose appropriate action in situations requiring following a chain of command.
	24.05 Choose appropriate action in situations requiring effective time management.
	24.06 Demonstrate ability to manage a team.
25.0	Identify, classify, and demonstrate management functions–The student will be able to:
	25.01 Define management.
	25.02 Identify management positions and styles.
	25.03 Identify the major functions of management.
	25.04 Classify activities as part of the planning function of management.
	25.05 Classify activities as part of the organizing function of management.
	25.06 Classify activities as part of the staffing function of management.
	25.07 Classify activities as part of the directing function of management.
	25.08 Classify activities as part of the controlling function of management.

	25.09 Demonstrate the ability to perform planning, organizing, staffing, directing, and controlling functions of management.
	25.10 Distinguish among management functions.
	25.11 Select the most effective communication systems.
26.0	Apply basic quality control principles–The student will be able to:
	26.01 Describe basic quality control systems.
	26.02 Implement and practice quality control.
27.0	Demonstrate an understanding of technical or industrial competencies–The student will be able to:
	27.01 Discuss and/or perform basic procedures which fall under this management position.
	27.02 Possess basic competency understanding necessary to the role of management.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Cooperative training - OJT is appropriate for this program. When cooperative training is offered, the following is required for each student: a training plan, signed by the student, instructor and employer which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation which reflects equipment, skills and tasks which are relevant to the occupations which the student has chosen as a career goal. Students must receive compensation for work performed.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Ophthalmic Technician**
Career Cluster: **Health Science**

AS	
CIP Number	1351180301
Program Type	College Credit
Standard Length	72 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2099 Health Technologists and Technicians, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as ophthalmic technicians, optical goods workers SOC Code 29-2099 (Health Technologists and Technicians, All Other) or provide supplemental training for persons previously or presently employed in this occupation.

The content includes but is not limited to (1) to perform specified ophthalmologic tests and procedures with skill, (2) understand and practice the art of ophthalmologic assisting, thereby providing the patient with medical care of the highest quality and accuracy, (3) to become members of the health care team who contribute to the physical and psychological comfort of the patient, (4) to provide a system of quality assurance for both equipment and treatment delivery, (5) and to understand the importance of maintaining membership in the professional organizations and keeping abreast of the changes in the field of ophthalmology.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 72 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Discuss the ophthalmic practice and personnel.
02.0 Discuss legal and ethical issues in the ophthalmic practice.
03.0 Describe the basic functions of the human body systems.
04.0 Discuss the anatomy and physiology of the human eye.
05.0 Describe the clinical findings of common ocular pathology.
06.0 Demonstrate knowledge of geometric and physiologic optics.
07.0 Demonstrate clinical knowledge of ocular and systemic medications.
08.0 Demonstrate the taking of an ocular and medical history.
09.0 Demonstrate basic ophthalmic clinical skills.
10.0 Demonstrate intermediate ophthalmic clinical skills.
11.0 Demonstrate knowledge of ophthalmic surgical procedures.
12.0 Discuss patient services provided or by the ophthalmic technician.
13.0 Demonstrate office safety and maintenance.
14.0 Demonstrate knowledge of patient vital signs and reactions.
15.0 Demonstrate advanced clinical skills.

Florida Department of Education
Student Performance Standards

Program Title: **Ophthalmic Technician**
CIP Number: **1351180301**
Program Length: **72 credit hours**
SOC Code(s): **29-2099**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Ophthalmic Medical Technician: Students completing standards 1-14 meet the qualifications for Ophthalmic Medical Technicians **Ophthalmic Medical Technologist: Students completing standards 1-15 meet the qualifications for Ophthalmic Medical Technologist**	
01.0	Discuss the ophthalmic practice and personnel. - the student will be able to:
01.01	List the professionals who work in the eye care industry.
01.02	Differentiate between licensure and certification of personnel.
01.03	Identify the general responsibilities of ophthalmic technical personnel, the ophthalmic scribe and the administrative staff.
01.04	Define the levels of training and certification of the ophthalmic medical professional.
01.05	Define the scope of practice of the ophthalmic technician.
02.0	Discuss legal and ethical issues in the ophthalmic practice. – the student will be able to:
02.01	Identify methods of protection of personal health information for the patient.
02.02	Summarize the Health Information Portability Accountability Act as it pertains to care of the patient in the ophthalmic clinic.
02.03	Discuss ethical and legal standards of medical care.
02.04	Discuss physician and technician malpractice insurance.
02.05	Describe the process of informed consent.
03.0	Describe the basic functions of the human body systems. – the student will be able to:
03.01	Discuss the components and functions of the respiratory and cardiovascular system

	03.02 Describe the anatomy and physiology of the endocrine and reproductive systems
	03.03 Identify the components of the integumentary and digestive systems
	03.04 Describe the structure and function of the musculoskeletal system
	03.05 Discuss the components and functions of the nervous system
04.0	Discuss the anatomy and physiology of the human eye. – the student will be able to:
	04.01 Identify the bones and soft tissues of the orbit
	04.02 List the components of the anterior and posterior segments of the eye
	04.03 Discuss the anatomy of the eyelids and lacrimal system
	04.04 Describe the anatomy and physiology of the cornea and lens
	04.05 List the primary functions of the fibrous, vascular and sensory tunics of the eye
	04.06 Discuss the origins and functions of the extraocular muscles
	04.07 Identify the cranial nerves associated with movement and sensation of the ocular structures
	04.08 Describe the visual and pupillary pathways
	04.09 Discuss the pupillary light reflex
	04.10 Describe the process of accommodation
05.0	Describe the clinical findings of common ocular pathology. – the student will be able to:
	05.01 Discuss the principles of pathology
	05.02 Discuss basic microbiology as it applies to the ocular structures
	05.03 Identify disorders of the orbit
	05.04 Identify benign and malignant lesions of the eyelids
	05.05 List eyelid disorders due to malposition
	05.06 Discuss disorders of the lacrimal system
	05.07 Identify disorders of the conjunctiva and sclera

	05.08 Describe abnormal findings of the cornea
	05.09 Discuss intraocular inflammation of the iris and ciliary body
	05.10 Describe cataractous changes in the crystalline lens
	05.11 Discuss the ocular and visual changes associated with glaucoma
	05.12 List the signs and symptoms related to macular disease
	05.13 Discuss the retinal vascular changes associated with diabetes and cardiovascular disease
06.0	Demonstrate knowledge of geometric and physiologic optics. – the student will be able to:
	06.01 Discuss the visible spectrum and theories of visible light
	06.02 Describe the processes of reflection, refraction and absorption of visible light
	06.03 Discuss the index of refraction of different media
	06.04 Describe the process of refraction through a prism and a lens
	06.05 Calculate the focal length of a lens
	06.06 Identify the principle focal lines and Conoid of Sturm of a spherocylinder lens
	06.07 Discuss human refractive errors
	06.08 Identify lenses used in the correction of refractive errors
	06.09 Transpose prescriptions between plus and minus cylinder format
	06.10 Calculate a spherical equivalent power of a spherocylinder lens
07.0	Demonstrate clinical knowledge of ocular and systemic medications. – the student will be able to:
	07.01 Describe methods of delivery of ophthalmic and systemic medications
	07.02 Use accepted terminology and abbreviations related to pharmacology
	07.03 List ophthalmic medications used in the general ophthalmic examination
	07.04 Classify ophthalmic topical medications by the bottle top colors
	07.05 List topical medications used in the treatment of glaucoma

	07.06 Instill ophthalmic drops and ointments using proper technique
	07.07 Identify potential side effects of topical ophthalmic medications
	07.08 Describe the mechanism of action of anti-VEGF medications in macular degeneration and diabetic retinopathy
	07.09 Match commonly prescribed systemic medications with the disease process
	07.10 List potential ocular side effects of systemic medications
08.0	Demonstrate the taking of an ocular and medical history. – the student will be able to:
	08.01 Communicate effectively in written and oral communication
	08.02 Document information in the written or electronic patient record
	08.03 Document information in the medical record using appropriate medical terminology and accepted abbreviations
	08.04 Preserve patient confidentiality using HIPAA guidelines
	08.05 Maintain applicable ethical and legal standards
	08.06 Elicit the patient's chief complaint and history of present illness
	08.07 Identify pertinent ocular and systemic history that could affect the patient's ocular health
	08.08 Record ocular and systemic medicines
	08.09 Obtain pertinent family history of ocular and systemic disease
	08.10 Elicit the social history as it pertains to the ocular examination
	08.11 Record patient allergies and allergic reactions to medicines, environmental substances and seasonal allergens
09.0	Demonstrate basic ophthalmic clinical skills. – the student will be able to:
	09.01 Test and record the patient's level of visual acuity at distance and at near
	09.02 Test and record the visual acuity level using a pinhole
	09.03 Select non-traditional methods of visual acuity assessment for non-verbal, illiterate or non-English speaking patients
	09.04 Neutralize the patient's current spectacle correction by manual lensometry
	09.05 Measure and record the corneal surface refractive power by keratometry

	09.06 Assess the patient's color vision
	09.07 Test and record the central visual field using an Amsler grid
	09.08 Test and record the patient's visual field using confrontation testing
	09.09 Perform formal visual field assessment using automated perimetry
	09.10 Discuss patient and technician errors in automated perimetry testing
	09.11 Determine the binocular status of the patient using fusion and stereopsis testing
	09.12 Assess the extraocular motility by version and duction testing
	09.13 Identify and measure extraocular muscle imbalances using cover tests and prisms
	09.14 Estimate the ocular muscle deviation by corneal reflex positions
	09.15 Assess and record the pupillary reactions to light and accommodation
	09.16 Perform swinging flashlight test
	09.17 Examine the ocular adnexa and record the findings
	09.18 Instill topical anesthetic and dilating drops
	09.19 Perform and record applanation tonometry
10.0	Demonstrate intermediate ophthalmic clinical skills. – the student will be able to:
	10.01 Perform retinoscopy to determine the patient's refractive error
	10.02 Demonstrate refractometry techniques to obtain the best corrected visual acuity
	10.03 Perform manifest and cycloplegic refractometry
	10.04 Perform lensometry to neutralize ground-in or induced prism
	10.05 Determine additional power required for near or intermediate tasks
	10.06 Assess the anterior segment using the slit lamp biomicroscope
	10.07 Perform axial length measurements using ultrasound and optical instruments
	10.08 Calculate the intraocular lens power range in the pre-operative cataract evaluation

	10.09 Perform optical imaging of the retina and optic nerve
	10.10 Use digital or film cameras to obtain external, anterior segment or fundus images
	10.11 Measure the corneal thickness by pachymetry
	10.12 Map the corneal surfaces by corneal topography
	10.13 Identify commonly performed diagnostic procedures for glaucoma, cataracts and other pathology
	10.14 Identify abnormal findings in ophthalmic diagnostic testing
	10.15 Perform basic soft and rigid contact lens fitting
11.0	Demonstrate knowledge of ophthalmic surgical procedures. – the student will be able to:
	11.01 Identify minor surgery procedures performed in the ophthalmic clinical setting
	11.02 Describe surgical procedures commonly performed on the orbits, lacrimal system and eyelids
	11.03 List procedures performed for correction of strabismus
	11.04 Identify and describe refractive surgical procedures
	11.05 Differentiate between full thickness and lamellar corneal transplantation
	11.06 Discuss the methods of cataract extraction
	11.07 Classify intraocular lens implants used after cataract extraction
	11.08 Identify laser and surgical procedures performed as treatment for glaucoma
	11.09 Discuss methods of removing the vitreous
	11.10 Describe retinal and macular surgical procedures
	11.11 Apply proper sterile technique in the minor procedure or surgical suite
	11.12 Describe proper assisting techniques in minor procedure or surgical cases.
12.0	Discuss patient services provided or by the ophthalmic technician. – the student will be able to:
	12.01 Demonstrate proper technique of placing a pressure or non-pressure eye patch
	12.02 Demonstrate patient education of ocular and systemic disease processes

	12.03 Inform the patient of required testing, the interpreted test results, and treatment options for ophthalmic disease processes
	12.04 Counsel the patients on proper use of medications
	12.05 Instill ocular medications using proper technique
	12.06 Discuss triage procedures for ocular emergencies
	12.07 Identify resources available for the patient with subnormal vision
	12.08 Instruct patient is the use of optical and non-optical low vision devices
	12.09 Instruct the patient on the insertion, removal and care of contact lenses
13.0	Demonstrate office safety and maintenance. – the student will be able to:
	13.01 Identify environmental and electrical safety procedures in the clinical practice
	13.02 Replace instrument bulbs and fuses employing proper technique and safety standards.
	13.03 Discuss methods of instrument cleaning and maintenance
	13.04 Maintain clinical supply inventory
	13.05 Discuss proper disposal of hazardous and bio-medical waste
	13.06 Describe the principles of infection control and Universal Precautions
	13.07 Maintain aseptic technique in the clinical and surgical setting
	13.08 Identify potential safety hazards in the physical space
14.0	Demonstrate knowledge of patient vital signs and reactions. – the student will be able to:
	14.01 Perform cardiopulmonary resuscitation in a clinical setting
	14.02 Measure and record blood pressure
	14.03 Measure and record patient temperature
	14.04 Assess patient respiration
	14.05 Recognize patient allergic response in the clinical setting
15.0	Demonstrate advanced clinical skills. – the student will be able to:

15.01	Assess visual ability in low vision patients
15.02	Identify optical low vision aids
15.03	Identify and neutralize ocular deviations using prism and alternate cover
15.04	Identify paralytic extraocular muscle using the three-step test
15.05	Perform advanced ocular imaging procedures
15.06	Determine prism addition in spectacle correction
15.07	Calculate induced prism using Prentice’s formula
15.08	Perform therapeutic contact lens fitting
15.09	Perform ophthalmic electrophysiology testing
15.10	Demonstrate clinical supervision skills
15.11	Demonstrate clinical training techniques

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical education has been established for students in this program to permit accurate assessment of the knowledge, skills, and abilities of students in the clinical component of the program. After completion of the prerequisite practice of ophthalmic assisting procedures, students indicate to the faculty their readiness for evaluation of competence in a specific competency category/procedure.

Multiple affiliates are utilized for the clinical activities which provide equitable opportunities for the student to achieve the program clinical objectives. The resulting clinical rotations provide students with the technical skills for the ophthalmic medical technician.

Special Notes

The program is designed to provide the medical community of ophthalmology with workers who, under the supervision of an ophthalmologist, aid in the treatment of eye conditions and diseases. The curriculum provides students an opportunity to develop technical and social skills through experiences in the clinic, classroom, and laboratory. The Health Careers Core must be taken by all students (secondary, postsecondary adult and postsecondary vocational) planning to complete any Health Occupations program. Once successfully completed, the core does not need to be repeated at any instructional level.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Health Navigator**
Career Cluster: **Health Science**

AS	
CIP Number	1351221100
Program Type	College Credit
Standard Length	60 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	11.9111 Medical and Health Services Manager 21.1094 Community Health Worker

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The purpose of this program is to prepare students for employment as health navigators. SOC Codes: 11.9111 (Medical and Health Services Manager) or 21.1094 (Community Health Worker) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes but is not limited to communication skills, leadership skills, human relations and employability skills, principles of health insurance, introduction to computer literacy, health care organization, medical ethics, legal aspects, and advanced technical skills in a chosen health-related profession, health and safety.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 60 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate computer literacy with emphasis on current technology and the implications for and the effects on our society.
02.0 Demonstrate knowledge of practical methods of speech composition, organizational patterns and presentation.
03.0 Demonstrate basic knowledge of medical language, anatomy and physiology.
04.0 Demonstrate knowledge of the major ethical theories in philosophy and how they relate to clinical care.
05.0 Demonstrate knowledge of the use of scientific methods in examining society.
06.0 Meet requirements for CPR Certification.
07.0 Demonstrate knowledge of modern scientific psychology and its application to human behavior.
08.0 Demonstrate knowledge of the basic concepts of statistical design and data analysis.
09.0 Identify and apply basic knowledge of different aspects of wellness.
10.0 Demonstrate knowledge of various topics pertinent to the five core disciplines of public health.
11.0 Demonstrate the ability to identify U.S. health care delivery funding sources.
12.0 Demonstrate ability to work as a health navigator or community health worker.
13.0 Demonstrate knowledge of current events in the field of public health.
14.0 Demonstrate knowledge of health communication and its impact on health outcomes.
15.0 Define and describe: long-term care and types of residences.
16.0 Demonstrate the use of evidence to draw conclusions about disease etiology.
17.0 Demonstrate knowledge of the three primary levels of prevention.
18.0 Demonstrate knowledge of how the insured and uninsured interact with the United States healthcare system.

Florida Department of Education
Student Performance Standards

Program Title: **Health Navigator**
CIP Number: **1351221100**
Program Length: **60 credit hours**
SOC Code(s): **11.9111, 21.1094**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Demonstrate computer literacy with emphasis on current technology and the implications for and the effects on our society. – The student will be able to:
01.01	Define cyber space and online communications, including the impact of the Internet and World Wide Web; ethical, privacy, environmental, and health related issues.
01.02	Demonstrate an understanding of how the Internet and World Wide Web impact: ethics, privacy as well as environmental, and health related issues.
02.0	Demonstrate knowledge of practical methods of speech composition, organizational patterns and presentation. – The student will be able to:
02.01	Demonstrate ability to present information in a group setting.
02.02	Demonstrate an understanding of how to organize, aggregate and present information.
03.0	Demonstrate basic knowledge of medical language, anatomy and physiology. – The student will be able to:
03.01	Define, describe and discuss anatomic descriptive terms of the body.
03.02	Demonstrate an understanding of basic patient discharge and transfer procedures.
03.03	Describe common abbreviations and commonly used medical terms and their proper usage.
03.04	Define and describe anatomic names of bones and organs of the body.
04.0	Demonstrate knowledge of the major ethical theories in philosophy and how they relate to clinical care. – The student will be able to:
04.01	Define ethical theories in philosophy and how they are used in evaluating contemporary issues in health care.
04.02	Describe applications of ethical codes.
04.03	Explain variations in ethical standards across health care.
05.0	Demonstrate knowledge of the use of scientific methods in examining society. – The student will be able to:

	05.01 Define and discuss group structure.
	05.02 Define and discuss socialization, social stratification and social roles.
	05.03 Explain deviance, collective behavior, ethnic diversity and globalism.
06.0	Meet requirements for CPR Certification. – The student will be able to:
	06.01 Demonstrate knowledge and skills necessary in an emergency to help sustain life until professional medical help arrives.
	06.02 Demonstrate knowledge and skills necessary in an emergency to reduce pain until professional medical help arrives.
	06.03 Demonstrate knowledge and skills necessary in an emergency to minimize the consequences of injury until professional medical help arrives.
07.0	Demonstrate knowledge of modern scientific psychology and its application to human behavior. – The student will be able to:
	07.01 Discuss personality development.
	07.02 Define: perception, motivation, learning, thinking, and remembering.
	07.03 Describe how the scientific method is used in psychology.
	07.04 Explain emotion and how it impacts perception.
	07.05 Define intelligence and describe how it is measured.
	07.06 Define cognition and how information is input, stored and retrieved.
08.0	Demonstrate knowledge of the basic concepts of statistical design and data analysis. – The student will be able to:
	08.01 Discuss descriptive and inferential statistics.
	08.02 Define: data organization and analysis, probability, discrete and continuous probability distributions, confidence intervals, hypothesis testing, correlation and simple linear regression.
	08.03 Describe when to use inferential, descriptive or probability statistics.
	08.04 Define basic statistics: mean, median, mode and variance.
09.0	Identify and apply basic knowledge of different aspects of wellness. – The student will be able to:
	09.01 Discuss integrating health living into one’s lifestyle.
	09.02 Define: physical fitness, mental health, nutrition, tobacco usage, alcohol consumption, illicit drug use, family living and how these factors connect with the concepts of wellness on a personal level.
	09.03 Identify the risk factors for cardiovascular disease.

	09.04	Describe the effects of tobacco and smoking on the human body.
	09.05	Describe the various fitness methods to improve health.
	09.06	Discuss the effects of nutrition on health and wellness.
	09.07	Explain body composition and achieving a healthy weight.
	09.08	Describe stress management strategies.
	09.09	Discuss the use and abuse of illicit drugs in society.
	09.10	Describe the effects of chronic disease on the human body.
10.0	Demonstrate knowledge of various topics pertinent to the five core disciplines of public health:– The student will be able to:	
	10.01	Define public health.
	10.02	Describe core disciplines of public health: Community and Family Health, Environmental and Occupational Health, Health Policy and Management, Epidemiology/Biostatistics and Global Health.
	10.03	Describe why public health is important.
	10.04	Summarize the historical milestones in public health.
	10.05	Identify and describe the five core disciplines of public health.
	10.06	Identify elements of public health in our everyday world.
	10.07	Explain the concepts of: prevention, detection, control of infectious and chronic conditions, health disparities, and global health.
	10.08	Compare and contrast examples of major domestic and international public health issues.
11.0	Demonstrate the ability to identify U.S. health care delivery funding sources. – The student will be able to:	
	11.01	Demonstrate an understanding of the evolutionary perspective of health services and its relevance with the existing healthcare system, facilities and services.
	11.02	Explain the social, political, and public policy implications of health-related issues, such as availability, cost, delivery, and financing.
	11.03	Describe the various health care organizations and service delivery options.
	11.04	Identify the major health professions and explain the role of each and their licensing/educational requirements.
	11.05	Compare and contrast the health care delivery systems of the U.S. with other major industrialized nations.
	11.06	Understand the array of career choices in the health care sector of the economy.

	11.07 Discuss the various sources and uses of funds for healthcare as well as market trends and future implications.
12.0	Demonstrate ability to work as a health navigator or community health worker. – The student will be able to:
	12.01 Identify community agencies where health navigators are employed.
	12.02 Complete a field experience that provides student with descriptions of primary duties, annual salary and interaction with professional organization.
	12.03 Demonstrate an understanding of the essential duties of health navigators.
	12.04 Describe barriers to care faced by patients and consumers of placement site.
	12.05 Discuss the core health activities of placement site.
	12.06 Demonstrate an understanding of how placement site works with: local, county, state and federal agencies.
	12.07 Evaluate the role of health navigation in patient health care.
	12.08 Demonstrate communication techniques to assess patient health and needs.
13.0	Demonstrate knowledge of current events in the field of public health. – The student will be able to:
	13.01 Identify outlets (news, media, governmental) used to communicate public health events to the general public.
	13.02 Describe the implications of current events on public health.
	13.03 Discuss concerns related to how public health information is relayed to the public.
	13.04 Recognize how reporting of global events (e.g. epidemics, regime change, and weather events) has the potential to impact other areas.
	13.05 Locate emerging public health trends.
	13.06 Explain etiology of emerging public health trends discussed throughout semester.
	13.07 Discuss legislation designed to protect the public's right to information during major health events (epidemics, terrorism, natural disasters).
14.0	Demonstrate knowledge of health communication and its impact on health outcomes. – The student will be able to:
	14.01 Describe key concepts and skills used to identify individuals with reduced health literacy.
	14.02 Explain how understanding health literacy is as a determinant of health.
	14.03 Discuss how to best provide culturally-appropriate communication and care starting with an awareness of one's own culture and the skills needed to provide sensitive and meaningful care and services to others.
	14.04 Discuss basic constructs of theories used in behavior change and persuasion.

	14.05 Classify health communication programs based on disease type (e.g. chronic vs. infectious).
	14.06 Determine communication methods to be used in specific settings (healthcare, school, and workplace).
	14.07 Discuss risks and rewards associated with use of digital communication in health care.
15.0	Define and describe: long-term care and types of residences. – The student will be able to:
	15.01 Explain psychological factors associated with the graying of populations in developed areas.
	15.02 Describe demographic characteristics of aging population.
	15.03 Describe the phenomenon of increasing life expectancy.
	15.04 Discuss health promotion and prevention for aging populations.
	15.05 Compare and contrast aging populations across the 20 and 21st centuries.
	15.06 Summarize the geriatric medicine movement.
16.0	Demonstrate the use of evidence to draw conclusions about disease etiology. - The student will be able to:
	16.01 Define evidenced based thinking in public health.
	16.02 Identify evidence based recommendations to determine disease etiology, benefits and basic recommendations for prevention.
	16.03 Discuss health information concepts related to economic, legal and social issues.
	16.04 Investigate a problem by using evidenced based thinking skills to define a health problem and determine what information is needed to make a decision.
	16.05 Locate and evaluate online health information to determine appropriate audiences are reached using specific content to the demographic group.
17.0	Demonstrate knowledge of the three primary levels of prevention. – The student will be able to:
	17.01 Discuss implementation methods of prevention used in public health: education, motivation and obligation.
	17.02 Describe the three levels of prevention in public health: primary, secondary and tertiary.
	17.03 Explain how preventative methods can be used throughout the life-cycle.
	17.04 Identify individual and community prevention needs in order to connect available resources to distressed areas.
	17.05 Summarize specific primary prevention methods including: vaccinations, exercise, nutrition counseling, and birth control.
	17.06 Summarize secondary prevention methods including: screening for risk factors of cardiovascular disease and injury prevention.

	17.07 Summarize specific tertiary prevention methods including: treatment to control symptoms and prevent complications.
18.0	Demonstrate knowledge of how the insured and uninsured interact with the United States healthcare system. – The student will be able to:
	18.01 Identify types of health insurance, e.g., Medicaid, Medicare and Medigap, exchanges, employment-based.
	18.02 Accurately describe the history of the development of the U.S. Healthcare system.
	18.03 Explain the relationship between essential services such as: preventive care, emergency care, choice of providers, institutional options, prescription drug options and coverage decisions.
	18.04 Describe issues associated with having access to care in the absence of health insurance and consequences of the decision not to obtain health insurance.
	18.05 Explain goals, limitations and basic rules for eligibility for worker's compensation.
	18.06 Discuss market and social justice philosophies in relation to health care coverage internationally.
	18.07 Describe the advantages and disadvantages of the U.S. health care coverage system.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Certificate Programs

A College Credit Certificate consists of a program of instruction of less than sixty (60) credits of college-level courses, which is part of an AS or AAS degree program and prepares students for entry into employment (Rule 6A-14.030, F.A.C.). This AS degree program includes the following College Credit Certificates:

Health Navigator Specialist (0351221100) - 31 credit hours

Standards for the above certificate programs are contained in separate curriculum frameworks.

Florida Department of Education
Curriculum Framework

Program Title: **Orthotics & Prosthetics Technology**
Career Cluster: **Health Science**

AS	
CIP Number	1351230703
Program Type	College Credit
Standard Length	60 credit hours
CTSO	HOSA
SOC Codes	51-9082- Medical Appliance technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as Orthotic and Prosthetic Technicians (SOC Code 51-9082.00: Medical Appliance Technicians).

The content includes, but is not limited to, human anatomy and physiology, biomechanics and kinesiology, material science, orthotic and prosthetic fabrication, safety procedures, CAD/CAM, and clinical pathologies.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 60 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Discuss and understand the role and responsibilities of an orthotic and prosthetic technician.
02.0 Discuss and describe an overview of the human body, including organization and chemical process.
03.0 Demonstrate knowledge and use medical terminology integral to Orthotics and Prosthetic technology.
04.0 Demonstrate knowledge of foot orthoses.
05.0 Demonstrate knowledge of UCBL foot orthoses.
06.0 Demonstrate knowledge of Ankle Foot Orthoses (AFO).
07.0 Demonstrate knowledge of Knee-Ankle-Foot Orthoses (KAFO).
08.0 Demonstrate knowledge of Hip-Knee-Ankle-Foot Orthoses(HKAFO), Standing Frames/Parapodiums
09.0 Demonstrate knowledge of Knee Orthoses (KO) and Hip Orthoses.
10.0 Demonstrate the knowledge of Hand Orthoses and Wrist-Hand Orthoses
11.0 Demonstrate knowledge of Elbow Orthoses Shoulder-Elbow-Wrist-Hand (SEWH) and Fracture Orthoses
12.0 Demonstrate knowledge of Lumbo-Sacral Orthoses (LSO), Thoraco-Lumbo-Sacral Orthoses (TLSO) and Cervico-Thoraco-Lumbo-Sacral Orthoses (CTLSO).
13.0 Demonstrate knowledge of Partial Foot Prostheses.
14.0 Demonstrate knowledge of Syme Prostheses.
15.0 Demonstrate knowledge of Transtibial Prostheses.
16.0 Demonstrate knowledge of Transfemoral Prostheses.
17.0 Demonstrate knowledge of Knee Disarticulation and Hip Disarticulation / Hemipelvectomy Prostheses.
18.0 Demonstrate knowledge of Transradial Prostheses.
19.0 Demonstrate knowledge of Transhumeral Prostheses.

Florida Department of Education
Student Performance Standards

Program Title: **Orthotics & Prosthetics Technology**
CIP Number: **1351230703**
Program Length: **60 credit hours**
SOC Code(s): **51-9082.00**

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
01.0	Discuss and understand the role and responsibilities of an Orthotic and Prosthetic Technician. The student will be able to:
01.01	Explain the role of the orthotic and prosthetic technician in providing ethical patient-centered care in technical support of patients.
01.02	Demonstrate knowledge of professional responsibilities of the orthotic and prosthetic technician to the orthotic and prosthetic workflow as well as to promotion of the field.
01.03	Demonstrate understanding of the governing statutes and ethical considerations of the role of the technician, support personnel, and those holding certificates and/or licensure in any orthotic and prosthetic profession.
01.04	Demonstrate understanding of safety procedures throughout fabrication, delivers, and maintenance of all orthotic and/or prosthetic services.
01.05	Demonstrate knowledge of safety organizations and governing bodies including, but not limited to, OSHA, The Joint Commission, and HIPPA.
01.06	Discuss the importance of professional development including continuing education, promotion of public awareness of the orthotic and prosthetic profession and involvement in professional organizations.
02.0	Discuss and describe an overview of the human body, including organization and chemical process. The student will be able to:
02.01	Demonstrate an understanding of the interrelationships of the structure of the human body and the specific functions of its cells, tissues, organs and organ systems.
02.02	Demonstrate knowledge of the basic principles of chemistry that govern the normal maintenance of homeostasis
02.03	Demonstrate understanding of the malfunction of homeostatic mechanisms in response to stress and/or disorders in the human body
03.0	Demonstrate knowledge and use medical terminology integral to Orthotics and Prosthetic Technology: The student will be able to:
03.01	Define the meaning of prefixes, suffixes, word roots and combining forms used in analyzing and defining medical terms
03.02	Correctly spell and/or pronounce medical terms and abbreviations essential to the practice of Orthotics and Prosthetics
04.0	Demonstrate knowledge of foot orthoses. The student will be able to:

	04.01	Demonstrate knowledge of current materials used in the fabrication of hard and soft foot orthoses.
	04.02	Understand the difference between corrective and accommodative foot orthoses.
	04.03	Demonstrate knowledge and skill to prepare positive models for foot orthoses (category I and II modifications only*).
	04.04	Demonstrate skill to form materials to fabricate hard and soft orthoses.
	04.05	Demonstrate knowledge and skill of modifications of foot orthoses.
	04.06	Demonstrate knowledge and skill to correctly fit foot orthoses into shoes including corrections for heel height.
	04.07	Demonstrate knowledge of shoe modification.
	04.08	Demonstrate knowledge of anatomy and biomechanics of the normal and pathological foot.
05.0	Demonstrate knowledge of UCBL foot orthoses. The student will be able to:	
	05.01	Demonstrate knowledge of the bony landmarks and pressure tolerant areas of the foot.
	05.02	Demonstrate knowledge to locate the medial, lateral, and transverse arches of the foot.
	05.03	Demonstrate knowledge and skill to prepare a positive UCBL model for fabrication (category I and II modifications only*).
	05.04	Demonstrate knowledge of materials used to fabricate UCBL orthoses.
	05.05	Demonstrate knowledge and skill in the processes used to fabricate UCBL orthoses including medial posting and trim lines.
06.0	Demonstrate knowledge of Ankle Foot Orthoses(AFO).The student will be able to:	
	06.01	Demonstrate knowledge of the following AFO designs:
	06.01.01	Posterior leaf spring/flexible ankle
	06.01.02	Thermoplastic solid ankle
	06.01.03	Axial resisting
	06.01.04	CROW/neuropathic walker
	06.01.05	Metal
	06.01.06	Dorsiflexion assist articulated
	06.01.07	Dorsiflexion stop articulated

	06.01.08	Plantarflexion resist articulated
	06.01.09	Plantarflexion stop articulated
	06.01.10	Limited motion articulated
	06.01.11	Hybrid
	06.01.12	Padded anterior shell
	06.01.13	Molded inner boot
06.02	Demonstrate the skills to fabricate:	
	06.02.01	A thermoplastic AFO
	06.02.02	A metal AFO with attached shoe
	06.02.03	An articulated plastic AFO with self-aligning joints (Tamarack)
	06.02.04	An articulated plastic AFO without self-aligning joins (Oklahoma)
	06.02.05	Heel posts
	06.02.06	Various strapping configurations
	06.02.07	A plastic AFO with modification for varus and/or valgus ankle control
06.03	Demonstrate knowledge of components for various AFOs.	
06.04	Demonstrate the knowledge and skills to correct a paper tracing to accommodate fixed or flexible deformities of the ankle.	
06.05	Demonstrate knowledge and skill in making angular changes to a negative model in the sagittal plane, only under a practitioner's instruction (i.e. set ankle at 3 degrees of dorsiflexion).	
06.06	Demonstrate knowledge and skill to prepare positive models for fabrication of AFOs (category I and II modifications only*).	
06.07	Demonstrate knowledge of anatomy and biomechanics of the normal and pathological foot and ankle.	
07.0	Demonstrate knowledge of Knee-Ankle-Foot Orthoses (KAFO).The student will be able to:	
07.01	Demonstrate knowledge of the following KAFO designs:	
	07.01.01	Metal
	07.01.02	Plastic

	07.01.03	Hybrid
	07.01.04	Stance Control
	07.01.05	Axial resisting
	07.01.06	Fracture
07.02	Demonstrate the skills to fabricate:	
	07.02.01	A metal KAFO
	07.02.02	A plastic/metal (hybrid) KAFO
07.03	Demonstrate knowledge of components for coronal, sagittal and transverse plane control.	
07.04	Demonstrate the knowledge and skills to correct a lower limb tracing for a KAFO.	
07.05	Demonstrate knowledge and skill in making angular changes to a negative model in the sagittal plane, only under a practitioner's instruction (i.e. set knee in 3 degrees of flexion).	
07.06	Demonstrate skill to prepare a lower limb positive model for fabrication of a KAFO (category I and II modifications only*).	
07.07	Demonstrate skill to incorporate tibial torsion into a metal KAFO.	
07.08	Demonstrate knowledge of anatomy and biomechanics of the normal and pathological knee.	
08.0	Demonstrate knowledge of Hip-Knee-Ankle-Foot Orthoses (HKAFO), Standing Frames/Parapodiums The student will be able to:	
08.01	Demonstrate knowledge of the following HKAFO and standing frame designs:	
	08.01.01	Standing frames and parapodiums
	08.01.02	Reciprocating gait orthoses
	08.01.03	Metal HKAFO designs
	08.01.04	Plastic HKAFO designs
08.02	Demonstrate knowledge of components for various HKAFO designs.	
08.03	Demonstrate knowledge of hip joint placement.	
08.04	Demonstrate knowledge of tracing correction principles for fabrication of HKAFOs.	
08.05	Demonstrate knowledge of spinal control devices that may be incorporated in HKAFO designs.	

	08.06 Demonstrate knowledge of anatomy and biomechanics of the normal and pathological hip.
09.0	Demonstrate knowledge of Knee Orthoses (KO) and Hip Orthoses. The student will be able to:
	09.01 Demonstrate knowledge of custom and prefabricated KO designs and principles.
	09.02 Demonstrate knowledge pediatric hip control orthoses.
	09.03 Demonstrate knowledge of post-surgical/trauma hip control orthoses.
10.0	Demonstrate the knowledge of Hand Orthoses and Wrist-Hand Orthoses The student will be able to:
	10.01 Demonstrate knowledge and skill to fabricate plastic and/or metal hand orthosis and wrist- hand orthoses.
	10.02 Demonstrate knowledge and skill to prepare positive models (category I and II modifications only*).
	10.03 Demonstrate knowledge of anatomy and biomechanics of the normal and pathological hand and wrist.
11.0	Demonstrate knowledge of Elbow Orthoses Shoulder-Elbow-Wrist-Hand (SEWH) and Fracture Orthoses The student will be able to:
	11.01 Demonstrate knowledge of Elbow orthoses
	11.02 Demonstrate knowledge of SEWH orthoses
	11.03 Demonstrate knowledge of various upper extremity orthoses for fracture management.
	11.04 Demonstrate knowledge of anatomy and biomechanics of the normal and pathological elbow.
12.0	Demonstrate knowledge of Lumbo-Sacral Orthoses (LSO),Thoraco-Lumbo-Sacral Orthoses(TLSO) and Cervico-Thoraco-Lumbo-Sacral Orthoses (CTLSO).The student will be able to:
	12.01 Demonstrate knowledge of metal and plastic LSO and TLSO designs.
	12.02 Demonstrate skills to fabricate metal LSO or TLSO spinal orthoses designs.
	12.03 Demonstrate skills to fabricate plastic bi-valve TLSO or LSO spinal orthoses designs.
	12.04 Demonstrate skills to fabricate scoliosis TLSO designs.
	12.05 Demonstrate knowledge and skill to prepare positive models for spinal orthoses (category I and II modifications only*).
	12.06 Demonstrate knowledge of metal and plastic CTLSO designs and principles.
	12.07 Demonstrate knowledge of anatomy and biomechanics of the normal and pathological spine.
13.0	Demonstrate knowledge of Partial Foot Prostheses. The student will be able to:

	13.01 Demonstrate knowledge of designs and principles for partial foot prostheses.
	13.02 Demonstrate knowledge of current materials used in the fabrication of partial foot prostheses.
	13.03 Demonstrate skill to form materials to fabricate partial foot prostheses.
	13.04 Demonstrate knowledge and skill to prepare positive models for partial foot prostheses (category I modifications only*****).
14.0	Demonstrate knowledge of Syme Prostheses. The student will be able to:
	14.01 Demonstrate knowledge of designs for Syme prostheses.
	14.02 Demonstrate the skills to fabricate expandable wall and/or medial opening prostheses.
	14.03 Demonstrate knowledge and skill to prepare positive models for Syme prostheses (category I modifications only*****).
	14.04 Demonstrate knowledge of alignment for Syme prostheses.
15.0	Demonstrate knowledge of Transtibial Prostheses. The student will be able to:
	15.01 Demonstrate knowledge of patellar tendon-bearing transtibial socket designs with cuff suspensions systems.
	15.02 Demonstrate knowledge of total surface bearing transtibial socket designs.
	15.03 Demonstrate knowledge of hydrostatic transtibial socket designs using a locking mechanism.
	15.04 Demonstrate knowledge of roll-on suction suspension systems.
	15.05 Demonstrate knowledge of waist belt suspension systems.
	15.06 Demonstrate knowledge of supracondylar suspension systems.
	15.07 Demonstrate knowledge of knee joint and thigh lacer suspension systems.
	15.08 Demonstrate knowledge of transtibial suspension sleeves.
	15.09 Demonstrate knowledge of elevated vacuum transtibial socket designs and suspension systems.
	15.10 Demonstrate the skills to fabricate an Exoskeletal transtibial prosthesis.
	15.11 Demonstrate the skills to fabricate an Endoskeletal transtibial prosthesis.
	15.12 Demonstrate the skills to fabricate a Soft interface for a transtibial prosthesis.
	15.13 Demonstrate the skills to fabricate a transtibial diagnostic socket.

	15.14 Demonstrate knowledge of components for various transtibial prostheses.
	15.15 Demonstrate knowledge and skill to prepare positive models for transtibial prostheses (category I modifications only*****).
	15.16 Demonstrate the skills of transtibial alignment and transfer.
	15.17 Demonstrate techniques for cosmetic finishing of a transtibial prostheses.
16.0	Demonstrate knowledge of Transfemoral Prostheses. The student will be able to:
	16.01 Demonstrate knowledge of Ischial containment transfemoral socket designs and suspensions systems:
	16.02 Demonstrate knowledge of quadrilateral transfemoral socket designs.
	16.03 Demonstrate knowledge of roll-on suction transfemoral suspension systems with or without locking mechanisms.
	16.04 Demonstrate knowledge of hip joint, pelvic band, and waist belt transfemoral suspension systems.
	16.05 Demonstrate knowledge of suction socket transfemoral socket designs and suspension systems.
	16.06 Demonstrate knowledge of auxiliary suspension systems (TES belt, Silesian bandage).
	16.07 Demonstrate knowledge of transfemoral suspension sleeves.
	16.08 Demonstrate knowledge of elevate vacuum transfemoral socket designs and suspension systems.
	16.09 Demonstrate the skills to fabricate transfemoral diagnostic sockets.
	16.10 Demonstrate the skills to fabricate endoskeleton transfemoral prosthesis.
	16.11 Demonstrate knowledge of components for various transfemoral prostheses.
	16.12 Demonstrate knowledge and skills to prepare positive models for transfemoral prostheses (category I modifications only*****).
	16.13 Demonstrate the skills of transfemoral alignment and transfer.
	16.14 Demonstrate techniques for cosmetic finishing of transfemoral prostheses.
17.0	Demonstrate knowledge of Knee Disarticulation and Hip Disarticulation / Hemipelvectomy Prostheses. The student will be able to:
	17.01 Demonstrate knowledge of knee disarticulation prosthetic designs and principles.
	17.02 Demonstrate knowledge of hip disarticulation and hemipelvectomy prosthetic designs and principles.
18.0	Demonstrate knowledge of Transradial Prostheses. The student will be able to:

18.01	Demonstrate knowledge of partial hand prosthesis designs and principles.
18.02	Demonstrate knowledge of passive/cosmetic prosthesis designs and principles.
18.03	Demonstrate knowledge of flexible and rigid hinges for transradial prostheses.
18.04	Demonstrate knowledge of transradial suspension techniques.
18.05	Demonstrate knowledge of body powered transradial prosthesis designs and principles.
18.06	Demonstrate knowledge of external powered transradial prosthesis designs and principles.
18.07	Demonstrate the skills to fabricate short transradial prosthesis.
18.08	Demonstrate the skills to fabricate long transradial prosthesis.
18.09	Demonstrate the skills to fabricate transradial prostheses with rigid and flexible hinges.
18.10	Demonstrate the skills to fabricate transradial prosthesis control harness and cable systems.
18.11	Demonstrate knowledge of components for various transradial prostheses.
18.12	Demonstrate knowledge and skill to prepare positive models for transradial prostheses (category I modifications only*****).
18.13	Demonstrate the skill of transradial alignment.
18.14	Demonstrate techniques for cosmetic finishing of transradial prostheses.
19.0	Demonstrate knowledge of Transhumeral Prostheses. The student will be able to:
19.01	Demonstrate knowledge of the elbow disarticulation prosthesis designs and principles.
19.02	Demonstrate knowledge of shoulder disarticulation prosthesis designs and principles.
19.03	Demonstrate knowledge of interscapular-thoracic prosthesis designs and principles.
19.04	Demonstrate knowledge of transhumeral prosthesis designs and principles.
19.05	Demonstrate knowledge of passive/cosmetic transhumeral designs and principles.
19.06	Demonstrate knowledge of body powered transhumeral designs and principles.
19.07	Demonstrate knowledge of external powered transhumeral designs and principles.
19.08	Demonstrate knowledge of transhumeral suspension techniques.

19.09	Demonstrate the skills to fabricate transhumeral prostheses.
19.10	Demonstrate the skills to fabricate a transhumeral control harness and cable system.
19.11	Demonstrate knowledge of components for various transhumeral prostheses.
19.12	Demonstrate knowledge and skill to prepare positive models for transhumeral prostheses (category I modifications only*****).
19.13	Demonstrate the skill of transhumeral alignment.
19.14	Demonstrate techniques for cosmetic finishing of transhumeral prostheses.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

**Definition/hierarchy of modifications:*

- *Category I - Artifact modifications*
  - *Removal of surface deformations caused by poor casting technique*
  - *Filling of voids produced by air in the plaster mixture, cast sock/nylon separation*
  - *Extraneous surface irregularities resulting from cast seams, leaks, etc*
  - *Any other surface modifications and smoothing procedures that do not substantially alter the surface topography or biomechanical attributes of the model*
- *Category II - Accommodative modifications*
  - *Standardized buildups/reliefs over well-identified common areas of concern such as malleoli, bony prominences on foot, knee joint regional prominences, etc.*
- *Category III - Biomechanical modifications*
  - *Modifications to negative/positive model resulting in significant changes to the volumetric/weight-distribution characteristics of the ensuing socket*
  - *Any changes to the negative/positive model that would alter the pre-existing biomechanical properties of the model*

Students who complete an Orthotic & Prosthetic Technician Programs accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) are eligible to sit for the Certified O & P Technician examination through the American Board for Certification in Orthotics, Prosthetics & Pedorthics (ABCOP).

Career and Technical Student Organization (CTSO)

HOSA- Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan

with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Nursing R.N.**
Career Cluster: **Health Science**

AS	
CIP Number	1351380100
Program Type	College Credit
Standard Length	72 Credits Hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-1141 Registered Nurses

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as registered nurses SOC Code 29.1141 (Registered Nurses).The Health Careers Core must be taken by all students (secondary and postsecondary adult) planning to complete any Health Occupations program. Once successfully completed, the core does not need to be repeated at any instructional level.

The content includes but is not limited to , theoretical instruction and clinical experience in medical, surgical, obstetric, pediatric, and geriatric nursing; theoretical instruction and clinical experience in acute, care, long term care and community settings; theoretical instruction and clinical application of vocational role and function; personal, family and community health concepts; nutrition; human growth and development over the life span; body structure and function; interpersonal relationship skills, mental health concepts; pharmacology and administration of medications; legal aspects of practice; and current issues in nursing.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 72 credit hours.

Regulated Programs

Clinical instruction of nursing students will meet the **requirements of** Florida Statute 464.019. Clinical experience must make up or least 50% of the total program. Clinical Simulation may be used for no more than 50% of the total clinical experience.
Please refer to Florida Statute 464.019 (1) (b) for faculty credential requirements to teach this program.

The program must be approved by the Florida Board of Nursing. It is important that each associate degree nursing program effectively utilize the services of an active program advisory committee composed of individuals' representative of the community. Only when the educators and employers work together can the associate degree nursing graduate be provided the competencies that are most needed for successful employment as a new registered nurse.

The Human Patient Simulator (HPS) may be used for a limited number of clinical hours with prior approval from the Florida Board of Nursing.

Associate degree nurses (ADN) are prepared to provide nursing care to clients in a variety of settings. ADN graduates are eligible to take the National Council Licensing Examination (NCLEX-RN) which tests minimum competence to practice safe nursing care.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate competencies in the core components of professional nursing-professional behavior
13.0 Demonstrate competencies in the core components of professional nursing-communication
14.0 Demonstrate competencies in the core components of professional nursing-assessment
15.0 Demonstrate competencies in the core components of the professional nurse-clinical decision making
16.0 Demonstrate competencies in the core components of professional nursing-caring intervention
17.0 Demonstrate competencies in the core components of professional nursing- teaching and learning
18.0 Demonstrate competencies in the core components of professional nursing-collaboration
19.0 Demonstrate competencies in the core components of professional nursing-managing care
20.0 Demonstrate competencies in the core components of the professional nurse leadership and delegation

Florida Department of Education
Student Performance Standards

Program Title: **Registered Nurse**
CIP Number: **1351380100**
Program Length: **72 credit hours**
SOC Code(s): **29-1141**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:	
Associate Degree Nursing: Intended outcomes 12-20 complete the occupational exit of Associate Degree Nurse. Inherent within these intended outcomes is the utilization and application of the nursing process (assessment, diagnosis, planning, implementation, and evaluation) across the life span and in diverse settings within the health continuum.	
12.0	Demonstrate competencies in the core components of professional nursing regarding professional behaviors.--The student will be able to:
12.01	Practice within the ethical, legal and regulatory frameworks of nursing and standards of professional nursing practice.
12.02	Report unsafe practices of healthcare providers using appropriate channels of communication.
12.03	Demonstrate accountability for nursing care given by self and or delegated to others.
12.04	Advocate for client rights.
12.05	Maintain organizational and client confidentiality.
12.06	Practice within the parameters of individual knowledge and experience.
12.07	Describe political processes as the processes affect agency specific health care and the profession of nursing.
12.08	Understand the role of professional organizations.
12.09	Serve as a professional role model within healthcare settings and the community at large.

	12.10 Recognize the impact of political, social, and demographic forces on the delivery of health care.
	12.11 Participate in lifelong learning.
	12.12 Implement a plan to meet self-learning needs.
	12.13 Delineate and maintain appropriate professional boundaries in the nurse-client relationship.
13.0	Demonstrate competencies in the core components of professional nursing-communication.--The student will be able to:
	13.01 Utilize therapeutic communication skills when interacting with clients and support person(s).
	13.02 Communicate relevant, accurate and complete information in a concise, clear and timely manner to the client and support person(s) as well as multidisciplinary healthcare team members.
	13.03 Document relevant, accurate and complete information regarding assessments, interventions and progress toward client outcomes.
	13.04 Utilize information technology, including the use of electronic health records, to support and communicate the planning and provision of client care.
	13.05 Utilize appropriate channels of communication to achieve positive client outcomes.
	13.06 Determine the communication needs/preferences of individual clients and support persons(s).
14.0	Demonstrate competencies in the core components of the professional nurse regarding assessment.--The student will be able to:
	14.01 Assess the interaction patterns of the individual client or significant support person(s).
	14.02 Assess the developmental, emotional, cultural, religious and spiritual influences on the client's health status.
	14.03 Assess the client's health status by completing a health history and performing a physical, cognitive, psychosocial and functional assessment.
	14.04 Assess client and significant support person(s) for learning strengths, capabilities, barriers and educational needs.
	14.05 Assess the client's adaptation to health and behavior issues.
	14.06 Assess the client's response to interventions.
	14.07 Assess the client's knowledge and ability to access available community resources to meet health needs.
	14.08 Assess the environment for factors that may impact the client's health status.
15.0	Demonstrate competencies in the core components of the professional nurse regarding clinical decision making.--The student will be able to:
	15.01 Make clinical judgments and management decisions to ensure accurate and safe care.
	15.02 Utilize client data to plan care.

	15.03	Evaluate the effectiveness of care provided in meeting client outcomes.
	15.04	Modify client care as indicated by the evaluation of outcomes.
	15.05	Participate in problem identification and data collection for research, quality control or improvement processes to meet client outcomes.
	15.06	Use research and evidence based data to plan client care and support clinical decision making.
16.0	Demonstrate competencies in the core components of the professional nurse regarding caring interventions.--The student will be able to:	
	16.01	Promote the client's dignity.
	16.02	Provide nursing care based on emotional, cultural, religious and spiritual influences on the client.
	16.03	Demonstrate caring behavior towards the client, support person(s), peers and other members of the healthcare team.
	16.04	Provide holistic, client centered nursing care in diverse settings.
	16.05	Implement the prescribed care regimen for management of clients with obstetric, pediatric, medical, surgical, or psychiatric problems within the legal, ethical and regulatory framework of nursing practice.
	16.06	Perform nursing interventions competently according to the current standards of professional nursing practice.
	16.07	Provide a safe physical and psychosocial environment.
	16.08	Assist the client and support person(s) to cope with and adapt to stressful events and changes in health status, including healthcare and end of life decision-making.
	16.09	Assist the client and support person(s) to achieve optimum well-being.
	16.10	Prepare the client and support person(s) for independent care management.
	16.11	Implement appropriate procedures to meet regulatory and accreditation agency patient safety guidelines.
17.0	Demonstrate competencies in the core components of the professional nurse regarding teaching and learning.--The student will be able to:	
	17.01	Develop an individualized teaching plan based on assessed needs.
	17.02	Provide the client and support person(s) with the information to make choices regarding health in a manner that enables understanding.
	17.03	Teach the client and support person(s) the information and skills needed to achieve the desired learning outcomes.
	17.04	Evaluate the progress of the client and support person(s) toward achievement of the identified learning outcomes.
	17.05	Modify the teaching plan based on evaluation of progress toward meeting the learning outcomes.
	17.06	Provide assistive personnel with relevant instruction to support achievement of client outcomes.

	17.07 Participate in client care that supports health promotion.
18.0	Demonstrate competencies in the core components of the professional nurse regarding collaboration.--The student will be able to:
	18.01 Develop multidisciplinary solutions based on the analysis of client problems to achieve optimum client outcomes.
	18.02 Identify multidisciplinary resources to achieve optimum client outcomes.
	18.03 Collaborate with the client, support person(s), and other multidisciplinary team members to evaluate progress toward achievement of outcomes.
19.0	Demonstrate competencies in the core components of the professional nurse regarding managing care.**--**The student will be able to:
	19.01 Prioritize client(s) care utilizing the nursing process.
	19.02 Coordinate the implementation of an individualized plan of care for clients and support person(s).
	19.03 Facilitate the continuity of care within and across healthcare settings.
	19.04 Adapt client care to changing healthcare settings and management systems.
	19.05 Assist the client and support person(s) to access available resources and services.
	19.06 Demonstrate competence with current healthcare technologies and information systems.
	19.07 Manage care for clients using cost effective nursing strategies, quality improvement processes and current technology.
20.0	Demonstrate competencies in the core components of the professional nurse regarding leadership and delegation.--The student will be able to:
	20.01 Describe the components of leadership.
	20.02 Contrast leadership and management.
	20.03 Describe the qualities of an effective leader.
	20.04 Describe skills necessary for effective leadership of an interdisciplinary team.
	20.05 Employ practices that build relationships and encourage team work.
	20.06 Delegate aspects of client care that are within the scope of practice to appropriate members of the healthcare team.
	20.07 Evaluate the activities delegated to members of the healthcare team.
	20.08 Communicate effectively with all members of the health care team.
	20.09 Use a coaching/collaborative approach in leading a team.

20.10	Coordinate the decision making process with the client, support person(s), and other members of the health care team.
20.11	Implement nursing strategies that support efficient and cost effective care.
20.12	Describe how a leader utilizes research for evidence-based practice effecting positive client outcomes.
20.13	Describe how effective leadership influences unit culture, client outcomes and the achievement of organization goals.
20.14	Describe the leader's role related to quality measures, performance improvement and the accreditation and regulatory requirements.
20.15	Employ effective conflict resolution strategies that promote a healthy work environment.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The following PSAV programs have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Practical Nursing – CIP# 0351390100– 10 credits

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into this degree program.

Licensed Practical Nurse (FDMQA017) – 10 credits

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Reinforcement of basic skills in English, mathematics, and sciences appropriate for the job preparatory programs occurs through didactic instruction and applied laboratory procedures or practice.

The location of the ADN program within the community college setting provides an appropriate academic environment for instruction in the biological, physical, social, and behavioral sciences. The community college setting further provides instruction in the communication skills basic to the successful performance of the ADN graduate in the work setting. This body of knowledge supports concepts specific to the practice of nursing.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, and community issues and health, safety, and environmental issues.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Program Title: **Anesthesia Technology**
Career Cluster: **Health Sciences**

AS	
CIP Number	1351999901
Program Type	College Credit
Standard Length	71 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2099 Health Technologists and Technicians, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Sciences career cluster.

The content includes but is not limited to introduction to anesthesia technology, medical ethics and law, medical terminology, methods of patient care, human structure and function, chemistry, principles of anesthesiology, complex anesthesia equipment, categories of anesthesia and adjunct medication, function of advance equipment used in cardiac, neurological and trauma surgical procedures, provide technical support during perioperative procedures, the ability to maintain anesthesia equipment and supplies, assist the anesthesia professional as requested, introduction to quality assurance, introduction to computer literacy, and clinical education. The curriculum includes a plan for well-structured competency based clinical education.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 71 credit hours.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.

In addition, students will complete the objectives for Anesthesia Technician/ Technologist

12.0 Describe the role and responsibilities of an Anesthesia Technician/ Technologists.
13.0 Discuss the basic principles for Anesthesia Technology
14.0 Understand the functions of the advanced anesthesia equipment appropriate for surgical procedures and differentiate between the various types of more complex anesthesia equipment and instrumentation.
15.0 Understand the various categories of anesthesia and adjunct medications, including proper use and storage.
16.0 Discuss the preparation of complex equipment used in pediatric, obstetrical, and outpatient anesthesia and discuss the role of anesthesia technologist in the care of pediatric, obstetrical, and ambulatory surgical patient.
17.0 Demonstrate knowledge in the function and use of advanced equipment used in cardiac, neurological, and trauma surgical procedures.
18.0 Demonstrate the ability to maintain and organizes the anesthesia environment, equipment, supplies, and personnel to facilitate department functions.
19.0 Provide perioperative technical support to the anesthesia professional staff for delivery of patient care.
20.0 Assist the anesthesia professional staff as requested.
21.0 Participate in system to support and continually improve the quality of anesthesia services provided to patients and their families, fellow employees, physicians and other customers.
22.0 Promotes and maintains positive relationships with all contact.

Florida Department of Education
Student Performance Standards

Program Title: **Anesthesia Technology**
CIP Number: **1351999901**
Program Length: **71 Credit Hours**
SOC Code(s): **29-107101/Anesthesiologist Assistants**

Standards 1-11 are referred to as the **Health Science Core** and are required standards in this program. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to	
12.0	Describe the role and responsibilities of an Anesthesia Technician/Technologist – the student will be able to:
12.01	Apply concepts and principle of the function and job performance of the anesthesia technologists.
12.02	Compare professional anesthesiology roles including the scope of practice and function of each anesthesia care provider.
12.03	Apply Anesthesiology process and critical thinking to the care of the surgical patient at the foundational level.
12.04	Develop individualized anesthesia care plan at the foundation level.
12.05	Discuss safe, effective support of the anesthesia provider, in the care of the surgical patient.
12.06	Discuss the three levels of practice for an anesthesia technician/technologist and qualifications and scope of practice for each.
12.07	Explain the role of the American Society of Anesthesia Technicians and Technologist (ASSATT) and it function.
13.0	Demonstrate the basic principles for anesthesia technology–the student will be able to:
13.01	Explain the techniques used for basic anesthesia set-up, and daily anesthesia machine check.
13.02	Demonstrate the appropriate skills for preparation and set up of anesthesia equipment for surgical cases.
13.03	Discuss how to prepare anesthesia equipment for proper disposal, cleaning, and sterilization requirements.

13.04	Apply aseptic techniques in preparing equipment and supplies.
13.05	Describe the process stocking, ordering and maintaining routine anesthesia equipment and supplies.
13.06	Discuss non-invasive and invasive monitoring modalities used in patient care.
13.07	Discuss the basic concepts of ventilation.
13.08	Discuss what regulatory body is responsible for regulating medical gas cylinders and containers in the US.
13.09	Explain what filling density means.
13.10	Discuss the delivery methods of anesthetic agents.
13.11	Evaluate the techniques and procedures used for regional anesthesia.
13.12	Explain the role of the anesthesia assistant in positioning of patients.
14.0	Understand the functions of the advanced anesthesia equipment appropriate for surgical procedures and differentiate between the various types of more complex anesthesia equipment and instrumentation- the student will be able to
14.01	Demonstrate the ability to prepare equipment for a variety of surgical cases and procedures in anesthesia.
14.02	Describe the various patient anatomical positions for surgical cases.
14.03	Applies critical thinking skills in assisting the anesthesia provider with patients of all types, ages and physical condition for a variety of surgical and medically related procedures.
14.04	Discuss the various types of anesthesia.
14.05	Discuss the American Society of Anesthesiologists (ASA) guidelines determining anesthesia machine obsolescence.
14.06	Explain regulatory compliance requirements for adherence to policies regarding anesthesia equipment.
14.07	Differentiate between the various types of more complex anesthesia equipment and instrumentation.
14.08	Explain hemodynamic monitoring equipment, function, application, and troubleshooting.
14.09	Discuss medication delivery system.
14.10	Describe patient warming and cooling devices.
14.11	Discuss how to properly set up the malignant hyperthermia cart.
14.12	Describe how to prepare a preparation of the peripheral nerve block equipment cart.
14.13	Identify what problems may occur with portable laboratory equipment and emergency equipment.

	14.14	Differentiate between the various types of airway equipment used on the difficult airway cart.
	14.15	Manage resources for the acquisition, preparation and application of warming, airway and ventilatory equipment.
	14.16	Identify and take appropriate action when confronted with anesthetic equipment-related malfunctions and maintains service records.
15.0	Understand the various categories of anesthesia and adjunct medications, including proper use and storage- the student will be able to	
	15.01	Describe safe and effective methods to order, categorize, and store medications in the anesthesia environment.
	15.02	Discuss the use of effective communication skills when interacting with anesthesia providers in assisting with administration of medications.
	15.03	Differentiate between the various types of intravenous medications.
	15.04	Demonstrate competencies in IV insertion and volume resuscitation.
	15.05	Compare the side effects of various inhalational agents.
	15.06	Differentiate between the various types of intravenous fluids and blood products.
	15.07	Explain the need for proper labeling of anesthetic medications.
16.0	Discuss the preparation of complex equipment used in pediatric, obstetrical, and outpatient anesthesia and the role of anesthesia technologist in the care of pediatric, obstetrical, and ambulatory surgical patient- the student will be able to	
	16.01	Differentiate between the various equipment used in the anesthesia care of the obstetrical, pediatric, and ambulatory surgical patient.
	16.02	Discuss the physiologic changes during pregnancy that affects the delivery of anesthesia care.
	16.03	Explain placental transfer and fetal exposure to anesthetic drugs.
	16.04	Differentiate between systemic medication, regional, epidural, spinal, and lumbar epidural anesthesia.
	16.05	Explain how to manage high risk deliveries of the following patients: preeclampsia, cesarean section, HIV patients, cocaine abuse.
	16.06	Summarize obstetrical emergency including seizures, hemorrhage, embolism and cardiac arrest.
	16.07	Discuss specific pediatric surgeries including neurosurgery, cardiac, otolaryngology, ophthalmology, and dental
	16.08	Explain the equipment considerations for patient from birth through adolescence.
	16.09	Effectively explain the need to maintain temperature balance in children during surgical procedures.
	16.10	Discuss the perioperative evaluation and preparation of a child for surgery.
17.0	Demonstrate knowledge in the function and use of advanced equipment used in cardiac, neurological, and trauma surgical procedures – the student will be able to	

	17.01	Develop a comprehensive anesthesia plan of care with the anesthesia provider for the complex surgical patient.
	17.02	Demonstrate effective communication skills when interacting with the anesthesia care provider in preparation of cardiac, neurological, and trauma patients.
	17.03	Demonstrate the assessment of support needed for anesthesia services for all patients and types of anesthesia, including trauma and emergency cases.
	17.04	Demonstrate the completion of comprehensive and appropriate equipment check.
	17.05	Demonstrate the knowledge and skills required to compile and calibrate equipment.
	17.06	Demonstrate an understanding of data obtained from noninvasive and invasive monitoring modalities.
	17.07	Differentiate between the various types of more complex anesthesia equipment and instrumentation.
	17.08	Compare the various modalities used in peripheral nerve blocks.
	17.09	Explain the relationship of fluid management and the equipment required.
18.0	Demonstrate the ability to maintain and organizes the anesthesia environment, equipment, supplies, and personnel to facilitate department functions. the student will be able to	
	18.01	Organize the inventory of the sterile supplies within their expiration date.
	18.02	Demonstrate the knowledge and skills required to complete inventories, orders and maintain departmental supply stock.
	18.03	Establish and maintain a complete record of all preventative maintenance past and present.
	18.04	Complete and maintain material safety data sheets (MSDS) sheets on hazardous materials and latex allergy items for all supplies under anesthesia cognizance.
	18.05	Organize an inventory of equipment used by the anesthesia department in order to track repairs; loaners and demos.
	18.06	Conduct any quality controls needed to return such items after repair to service.
	18.07	Organize pharmacy drugs within their expiration date and properly dispose of used or expired drugs.
	18.08	Review and follow the checklist for anesthesia equipment FDA Anesthesia Apparatus Checkout Recommendation (AACR) established by the Committee on Equipment and Facilities and the ASA.
	18.09	Demonstrate an understanding of the complexity of anesthesia machines and breathing systems.
	18.10	Discuss equipment related to environmental situations such as temperature control, MRI, operating room fires, and injuries related to sources of ignition.
	18.11	Performs quality control checks on laboratory equipment used in the operating room in accordance with the College of American Pathologists (CAP) guidelines.
	18.12	Complete all quality controls for Point of Care testing devices.

	18.13	Perform cyclic CAP surveys for all machines under the anesthesia department.
	18.14	Manage supporting documentation and quality control documentation.
	18.15	Maintain a list of those who have met the competencies for laboratory testing per the College of American Pathologists.
19.0	Provide perioperative technical support to the anesthesia professional staff for delivery of patient care – the student will be able to:	
	19.01	Adhere to Joint Commission accreditation policies and procedures, sentinel events, National safety goals, environment of care and other Joint Commission mandates directly related to anesthesia and patient safety.
	19.02	Comply with CAP requirements for ancillary laboratories.
	19.03	Prepare and assemble transducer lines and equipment necessary for invasive pressure monitoring.
	19.04	Demonstrate knowledge of hemodynamics and can perform cardiac calculations.
	19.05	Demonstrate detailed technical knowledge and troubleshooting ability for anesthesia delivery system, scavenger system, gas analyzer, EKG, pulse oximeter and rapid infusion devices.
	19.06	Complete hospital annual competency checklist which may include Auto transfusion; Stat lab; ACT; Waste Gas Survey; laser safety; Bronchoscope cleaning and sterilization and transfusion administration.
	19.07	Organize equipment to be assembled and assist with operation of specialized equipment such as humidification units; fiberoptic endoscopic equipment; rapid infusion devices/blood warmers; patient warming devices; neuromuscular devices; infusion pumps and syringes; balloon pump initial setups and TEE setup.
	19.08	Demonstrate speed and timeliness in all duties, particularly in preparation for emergencies and trauma procedures.
20.0	Assist the anesthesia professional staff as requested. – the student will be able to:	
	20.01	Assist in preparation and draping of patient for invasive monitoring/procedures by licensed anesthesia providers.
	20.02	Assist and anticipate needs of licensed anesthesia providers in invasive monitor insertion and procedures such as pulmonary artery catheter, central venous access, regional anesthesia, fiber optic intubation.
	20.03	Demonstrate knowledge of the ASA Difficult Airway Algorithm, its purpose and the various scenarios in which it would be useful.
	20.04	Prepare patients for major invasive monitoring and/ or complex cases including but not limited to placement of BP cuff, ECG leads, Pulse Oximetry, positioning and prepping.
	20.05	Assist in arranging equipment in anticipation of complications such as IV infiltration and malignant hyperthermia detection and treatment.
	20.06	Demonstrate competency monitoring the EKG for dysrhythmias as well as other potential complications.
	20.07	Prepare laryngoscopes and intubation equipment, IV solution and tubing set-up and set up of IV warming devices.
	20.08	Assist licensed anesthesia providers with volume infusions as directed during intraoperative volume resuscitations.
21.0	Participate in a system to support and continually improve the quality of anesthesia services provided to patients and their families, fellow	

	employees, physicians and other customers. – the student will be able to:	
	21.01	Participate in departmental meetings for quality improvement and risk management.
	21.02	Assist in the development of action plans in response to professional staff feedback regarding improvement opportunities.
	21.03	Obtain BCLS, ACLS, and PALS certifications.
	21.04	Demonstrate an understanding of the importance of departmental policies and procedures directly related to the anesthesia staff and performance duties.
22.0	Promote and maintain positive relationships with in the anesthesia department and the facility. – the student will be able to:	
	22.01	Demonstrate the ability to communicate on a professional level, verbally, non-verbally and electronically, regarding the delivery of perianesthetic care.
	22.02	Demonstrate the ability to resolve conflicts as appropriate.
	22.03	Discuss the importance of being an advocate for comprehensive health care policy decisions and the participation of activities, which enhance the role of the anesthesia technologist to improve patient care.
	22.04	Describe the importance of adapting to the every changing needs of diverse multi-cultural and complex client populations in the delivery of culturally competent care.
	22.05	Demonstrate knowledge of regulatory acts as they affect patients and staff.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program should meet the requirements of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and Committee on Accreditation for anesthesia Technologist Education (CoA-ATE).

After successful completion of a Commission on Accreditation of Allied Health Education Programs (CAAHEP) or Accrediting Bureau of Health Education Schools (ABHES) accredited program, students are eligible to take the American Society of Anesthesia Technologist and Technicians (ASATT) qualification exam for anesthesia technicians.

For further information please contact:

American Society of Anesthesia Technologist and Technicians (ASATT)
7044S 13th Street
Oak Creek, WI 53154
Email: a.llanas@asatt.org

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the appropriate career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Florida Department of Education
Curriculum Framework

Course Title: **Health Science Education Directed Study**
Career Cluster: **Health Science Cluster**

Secondary – Career Preparatory	
Course Number	8400100
CIP Number	0317999910
Grade Level	10-12, 30, 31
Standard Length	Multiple credits
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to provide students with learning opportunities in a prescribed program of study within the Health Science cluster that will enhance opportunities for employment in the career field chosen by the student.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

The content is prescribed by the instructor based upon the individual student's assessed needs for directed study.

This course may be taken only by a student who has completed or is currently completing a specific secondary job preparatory program or occupational completion point for additional study in this career cluster. A student may earn multiple credits in this course.

The selected standards and benchmarks, which the student must master to earn credit, must be outlined in an instructional plan developed by the instructor.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary course structure:

Course Number	Course Title	Teacher Certification	Length	Level	Graduation Requirement
8400100	Health Science Education Directed Study	ANY HEALTH OCCUP G *(See DOE approved list)	Multiple credits	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate expertise in a specific occupation contained within the career cluster.
02.0 Conduct investigative research on a selected topic related to the career cluster using approved research methodology, interpret findings, and prepare presentation to defend results.
03.0 Apply enhanced leadership and professional career skills.
04.0 Demonstrate higher order critical thinking and reasoning skills appropriate for the selected program of study.

Florida Department of Education
Student Performance Standards

Course Title: **Health Science Education Directed Study**
Course Number: **8400100**
Course Credit: **Multiple Credits**

CTE Standards and Benchmarks	
01.0	Demonstrate expertise in a specific occupation within the career cluster--The student will be able to:
01.01	The benchmarks will be selected from the appropriate curriculum frameworks and determined by the instructor based upon the individual students assessed needs.
02.0	Conduct investigative research on a selected topic related to the career cluster using approved research methodology, interpret findings, and prepare presentation to defend results--The student will be able to:
02.01	Select investigative study referencing prior research and knowledge.
02.02	Collect, organize and analyze data accurately and precisely.
02.03	Design procedures to test the research.
02.04	Report, display and defend the results of investigations to audiences that may include professionals and technical experts.
03.0	Apply enhanced leadership and professional career skills--The student will be able to:
03.01	Develop and present a professional presentation offering potential solutions to a current issue.
03.02	Enhance leadership and career skills through work-based learning including job placement, job shadowing, entrepreneurship, internship, or a virtual experience.
03.03	Participate in leadership development opportunities available through the appropriate student organization and/or other professional organizations.
03.04	Enhance written and oral communications through the development of presentations, public speaking, and live and/or virtual interviews.
04.0	Demonstrate higher order critical thinking and reasoning skills appropriate for the selected program of study--The student will be able to:
04.01	Use mathematical and/or scientific skills to solve problems encountered in the chosen occupation.
04.02	Read and interpret information relative to the chosen occupation.
04.03	Locate and evaluate key elements of oral and written information.
04.04	Analyze and apply data and/or measurements to solve problems and interpret documents.
04.05	Construct charts/tables/graphs using functions and data.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Orientation to Health Science Professions**
Course Type: **Orientation/Exploratory**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8400110
CIP Number	03179999OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to basic information about the kinds of jobs and workers involved the various career paths, financial rewards, occupational hazards, and educational requirements. Information concerning the practices for promoting good health is included

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400110	Orientation to Health Science Professions	ANY HEALTH OCCUP G *(See DOE approved list) HEALTH 6	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Recognize progress in health care service.
02.0 Demonstrate an awareness of health careers and related employability skills.
03.0 Recognize basic communication skills in the healthcare setting.
04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
05.0 Demonstrate an understanding of principles of wellness and disease.
06.0 Perform basic health care skills.
07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

Florida Department of Education
Student Performance Standards

Course Title: **Orientation to Health Science Professions**
Course Number: **8400110**
Course Length: **Semester**

CTE Standards and Benchmarks	
01.0	Recognize progress in health care service. –The student will be able to:
01.01	Compare medical progress from ancient times to the present. For example: surgical techniques, anesthesia, treatment and equipment.
01.02	Discuss health care leaders who brought about change and progress from ancient times to the present. For example: Hippocrates, Edward Jenner, Joseph Lister, Alexander Fleming, Marie Curie and Clara Barton.
01.03	Demonstrate knowledge of how advances in science have impacted beliefs and practices from ancient times to the present.
02.0	Demonstrate an awareness of health careers and related employability skills. –The student will be able to:
02.01	Complete a career inventory to match student interest with potential healthcare careers.
02.02	List employability/soft skills and characteristics needed to be successful in the workplace. For Example: punctuality, dependability, and communication skills.
02.03	Identify the characteristics of healthcare professionals.
02.04	Identify several professions in each of the Health Science Career Pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
02.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, and salary range.
03.0	Recognize basic communication skills in the healthcare setting. –The student will be able to:
03.01	Demonstrate an understanding of interpersonal communication skills such as active listening, verbal, non-verbal and written language.
03.02	Demonstrate the ability to break medical terms into their word parts.
03.03	Discuss common abbreviations and symbols used in healthcare professions.
03.04	Identify technology used for communication in healthcare professions and proper etiquette for its' use.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. –The student will be able to:

CTE Standards and Benchmarks	
	04.01 Describe the importance of why accurate calculations and effective problem solving skills are required.
	04.02 Calculate mathematical problems and measurements related to health care.
	04.03 Convert common weights, measure, and volumes to metric as applied in the health care setting.
	04.04 Accurately tell time using both standard and international/military time formats.
05.0	Demonstrate an understanding of principles of wellness and disease. –The student will be able to:
	05.01 Describe how cultural and individual differences relate to wellness and quality of life and how these differences impact health problems of society.
	05.02 Demonstrate an understanding of the risk factors that contribute to illness.
	05.03 Identify consequences of substance abuse and high risk behaviors.
	05.04 Describe strategies for prevention of diseases including health screenings and examinations.
	05.05 Explain basic concepts of positive self-image, body and mental wellness and the effect stress has on both.
	05.06 Explore the need for proper nutrition and water intake to maintain wellness.
06.0	Perform basic health care skills. –The student will be able to:
	06.01 Measure and record (graph) height and weight.
	06.02 Measure and record temperature, pulse and respiration (TPR).
	06.03 Demonstrate medical aseptic technique by using proper hand washing skills.
	06.04 Demonstrate hands-only CPR.
07.0	Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting. –The student will be able to:
	07.01 Recognize safety concerns related to the practice of health care.
	07.02 Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.).
	07.03 Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Special projects that are related to occupational clusters are provided, including making dental molds, designing eye glasses, fingerprinting, role playing activities of daily living as a handicapped individual, developing an emergency evacuation plan for their own home, menu planning, and visualizing x-rays. Team teaching and integration of the curriculum with English, Math and Science is encouraged.
Guest speakers from industry make an important contribution to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploration of Health Science Professions and Career Planning***
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8400210
CIP Number	03179999CE
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster. The content includes but is not limited to exploratory activities relating to all health occupational clusters. The course also includes an introduction to medical ethics, consumerism, and characteristics of health care workers, community health agencies and basic computer literacy.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

The purpose of this course is to give students initial exposure to the skills and attitudes associated with a broad range of occupations relating to careers in health, including job requirements and tasks performed, to assist students in making informed decisions regarding their future academic and occupational goals.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400210	Exploration of Health Science Professions and Career Planning	ANY HEALTH OCCUP G *(See DOE approved list) FAM CON SC 1 HEALTH 6	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a well-rounded understanding of healthcare professions.
02.0 Demonstrate an understanding of the importance of legal and ethical behavior related to health care.
03.0 Perform basic communication skills in the healthcare setting.
04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
05.0 Apply scientific principles to the health care field.
06.0 Perform basic health care skills.
07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

Listed below are the eight career and education planning course standards:

08.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
09.0 Develop skills to locate, evaluate, and interpret career information.
10.0 Identify and demonstrate processes for making short and long term goals.
11.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
12.0 Understand the relationship between educational achievement and career choices/postsecondary options.
13.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.
14.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
15.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Health Science Professions and Career Planning**
Course Number: **8400210**
Course Length: **Semester**

CTE Standards and Benchmarks	
01.0	Demonstrate a well-rounded understanding of healthcare professions. –The student will be able to:
01.01	Explore the major scientific advancements that have contributed to the evolution of healthcare.
01.02	Research contributions made in the field of medical science and their impact on the health care field.
01.03	Identify types of education and training levels (OJT, HSTE, AA, BS/BA, MS, and Doctoral) as related to health careers.
01.04	Compare and contrast the health science career pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
01.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, salary range, educational requirements and job outlook.
01.06	Research and describe a healthcare profession of interest identified through a career inventory assessment.
02.0	Demonstrate an understanding of the importance of legal and ethical behavior related to health care. –The student will be able to:
02.01	Identify responsibilities in maintaining ethical standards, confidentiality, and the patient's rights.
02.02	Identify and define terms related to the legal and ethical aspects of the health care industry. For example: malpractice, negligence, invasion of privacy, quackery, ethics and law, Patients' Bill of Rights, licensure.
03.0	Perform basic communication skills in the healthcare setting. –The student will be able to:
03.01	Demonstrate interpersonal communication skills such as active listening, verbal, non-verbal and written language in the health care setting.
03.02	Identify technology used for communication in healthcare professions and proper etiquette for its' use.
03.03	Demonstrate use of medical terminology and abbreviations associated with healthcare professions.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. –The student will be able to:
04.01	Analyze case studies or current events where adverse consequences resulted from mathematical medical error.

CTE Standards and Benchmarks	
	04.02 Convert common weights, measure, and volumes to metric as applied in the health care setting.
	04.03 Accurately identify and perform appropriate numeric procedures with problems found in numeric, symbolic, or word form as they relate to the occupations.
	04.04 Accurately tell time using both standard and international/military time formats.
05.0	Apply scientific principles to the health care field. –The student will be able to:
	05.01 Identify the overall organization of the human body.
	05.02 Describe the basic structure and function of the body systems of the human body.
	05.03 Describe how the systems of the human body work together to maintain homeostasis.
	05.04 Describe mechanisms of disease transmission, the Chain of Infection, prevention and standard precautions.
06.0	Perform basic health care skills. –The student will be able to:
	06.01 Measure and record (graph) height and weight.
	06.02 Measure and record temperature, pulse, blood pressure and respiration while recognizing the normal ranges for each.
	06.03 Demonstrate medical aseptic technique by hand washing, gloving and application of personal protective equipment (PPE).
	06.04 Demonstrate basic first aid skills (i.e. bleeding, fractures, and musculoskeletal emergencies).
	06.05 Demonstrate Cardiopulmonary Resuscitation (CPR) and care for a choking victim.
	06.06 Demonstrate basic skills used within the healthcare professions may include the following: 06.06.01 Visualizing X-rays 06.06.02 Conduct vision testing (Snellen chart, peripheral vision, color blindness) 06.06.03 Conduct basic hearing test 06.06.04 Measure respiratory capacity/output 06.06.05 Range-of-Motion exercises 06.06.06 Conduct simulated ABO blood-typing
07.0	Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting. –The student will be able to:
	07.01 Recognize safety concerns related to the practice of health care.
	07.02 Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.
	07.03 Identify poisons and hazardous materials to include the use and interpretation of a Safety Data Sheet (SDS) form.

CTE Standards and Benchmarks	
07.04	Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.).
07.05	Explore basic information on the dangers of blood borne diseases in healthcare including but not limited to HIV/AIDS and Hepatitis B.
07.06	Perform proper body mechanics to prevent self and patient injuries.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes. The student will be able to**:**	
08.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
09.0	Develop skills to locate, evaluate, and interpret career information.
10.0	Identify and demonstrate processes for making short and long term goals.
11.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
12.0	Understand the relationship between educational achievement and career choices/postsecondary options.
13.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
14.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
15.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Special projects that are related to each occupational cluster are provided, including role playing activities related to specific careers, visualizing x-rays and crutch-walking, operating the microscope, and specific lab procedures. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry and related field trips make important contributions to the effectiveness of this course.

Career Planning

The requirements of section 1003.4156 (1) (e), Florida Statutes, have been integrated into this course. The statute requires that students take a career and education planning course that must result in a completed personalized academic and career plan for the student; must emphasize the importance of entrepreneurship skills; must emphasize technology or the application of technology in career fields; and, beginning in the 2014-2015 academic year, must provide information from the Department of Economic Opportunity's economic security report as described in section 445.07, Florida Statutes.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploration of Health Science Professions**
Course Type: **Orientation/Exploratory**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8400310
CIP Number	03179999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster. The content includes but is not limited to exploratory activities relating to all health occupational clusters. The course also includes an introduction to medical ethics, consumerism, and characteristics of health care workers, community health agencies and basic computer literacy.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

The purpose of this course is to give students initial exposure to the skills and attitudes associated with a broad range of occupations relating to careers in health, including job requirements and tasks performed, to assist students in making informed decisions regarding their future academic and occupational goals.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400310	Exploration of Health Science Professions	ANY HEALTH OCCUP G *(See DOE approved list) FAM CON SC 1 HEALTH 6	Semester

Florida Standards for English Language Development (ELD)
English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a well-rounded understanding of healthcare professions.
02.0 Demonstrate an understanding of the importance of legal and ethical behavior related to health care.
03.0 Perform basic communication skills in the healthcare setting.
04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
05.0 Apply scientific principles to the health care field.
06.0 Perform basic health care skills.
07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Health Science Professions**
Course Number: **8400310**
Course Length: **Semester**

CTE Standards and Benchmarks	
01.0	Demonstrate a well-rounded understanding of healthcare professions. –The student will be able to:
01.01	Explore the major scientific advancements that have contributed to the evolution of healthcare.
01.02	Research contributions made in the field of medical science and their impact on the health care field.
01.03	Identify types of education and training levels (OJT, HSTE, AA, BS/BA, MS, and Doctoral) as related to health careers.
01.04	Compare and contrast the health science career pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
01.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, salary range, educational requirements and job outlook.
01.06	Research and describe a healthcare profession of interest identified through a career inventory assessment.
02.0	Demonstrate an understanding of the importance of legal and ethical behavior related to health care. –The student will be able to:
02.01	Identify responsibilities in maintaining ethical standards, confidentiality, and the patient's rights.
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03.03	Demonstrate use of medical terminology and abbreviations associated with healthcare professions.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. –The student will be able to:
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CTE Standards and Benchmarks	
	04.02 Convert common weights, measure, and volumes to metric as applied in the health care setting.
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05.0	Apply scientific principles to the health care field. –The student will be able to:
	05.01 Identify the overall organization of the human body.
	05.02 Describe the basic structure and function of the body systems of the human body.
	05.03 Describe how the systems of the human body work together to maintain homeostasis.
	05.04 Describe mechanisms of disease transmission, the Chain of Infection, prevention and standard precautions.
06.0	Perform basic health care skills. –The student will be able to:
	06.01 Measure and record (graph) height and weight.
	06.02 Measure and record temperature, pulse, blood pressure and respiration while recognizing the normal ranges for each.
	06.03 Demonstrate medical aseptic technique by hand washing, gloving and application of personal protective equipment (PPE).
	06.04 Demonstrate basic first aid skills (i.e. bleeding, fractures, and musculoskeletal emergencies).
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	06.06 Demonstrate basic skills used within the healthcare professions may include the following: 06.06.01 Visualizing X-rays 06.06.02 Conduct vision testing (Snellen chart, peripheral vision, color blindness) 06.06.03 Conduct basic hearing test 06.06.04 Measure respiratory capacity/output 06.06.05 Range-of-Motion exercises 06.06.06 Conduct simulated ABO blood-typing
07.0	Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting. –The student will be able to:
	07.01 Recognize safety concerns related to the practice of health care.
	07.02 Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.
	07.03 Identify poisons and hazardous materials to include the use and interpretation of a Safety Data Sheet (SDS) form.

CTE Standards and Benchmarks	
07.04	Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.).
07.05	Explore basic information on the dangers of blood borne diseases in healthcare including but not limited to HIV/AIDS and Hepatitis B.
07.06	Perform proper body mechanics to prevent self and patient injuries.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Special projects that are related to each occupational cluster are provided, including role playing activities related to specific careers, visualizing x-rays and crutch-walking, operating the microscope, and specific lab procedures. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry and related field trips make important contributions to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Skills and Services**
Program Type: **Non Career Preparatory**
Career Cluster: **Health Science**

Secondary – Non Career Preparatory	
Program Number	8400320
CIP Number	03179997PA
Grade Level	9-12, 30, 31
Standard Length	1 credit
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The purpose of this program is to give students an opportunity to apply knowledge and skills related to the area of Health Science career cluster.

The content includes but is not limited to practical generic skills in health occupations.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of one course.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary course/program structure:

Course Number	Course Title	Teacher Certification	Length	Level	Graduation Requirement
8400320	Medical Skills and Services	ANY HEALTH OCCUP G *(See DOE approved list) HEALTH 6	1 credit	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Course	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8400320	**	**	**	**	**	**	**	**	**	**	**

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Course	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8400320	18/67 27%	10/75 13%	16/54 30%	21/46 46%	21/45 47%	#	#

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Perform basic communication skills.
02.0 Perform basic mathematics skills used in health care.
03.0 Describe the services provided by health occupations career clusters.
04.0 Demonstrate basic health skills.
05.0 Demonstrate first aid, CPR and BLS
06.0 Discuss legal aspects for the health consumer.
07.0 Discuss the factors that affect whole body wellness.
08.0 Identify the needs of the terminally ill.
09.0 Demonstrate knowledge of blood borne diseases, including AIDS.
10.0 Relate the use of computers in the health care field.
11.0 Demonstrate employability skills.

Florida Department of Education
Student Performance Standards

Course Title: **Medical Skills and Services**
Course Number: **8400320**
Course Credit: **1**

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: NGSSS-Sci.

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
01.0	Perform basic communication skills–The student will be able to:		
01.01	Demonstrate examples of verbal and non-verbal communication.		
01.02	Demonstrate active listening skills.		
01.03	Demonstrate ability to follow written and oral directions.	LAFS.910.RI.1.2	
01.04	Discuss the difference between constructive and non-constructive criticism.	LAFS.910.RI.2.6 LAFS.910.RI.3.8	
01.05	Define, pronounce and spell common medical terms and abbreviations necessary to safely carry out medical instructions.	LAFS.910.L.3.4c,d LAFS.910.L.2.3	
02.0	Perform basic mathematics skills used in health care–The student will be able to:		
02.01	Measure and record height and weight using a variety of measurement systems used in health care.	MAFS.912.N-Q.1.3	
02.02	Convert common weights, measures and volumes to metric.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
02.03	Convert from regular to 24-hour clock time.		
02.04	Perform basic addition, subtraction, multiplication, and division used in healthcare.		
03.0	Describe the services provided by health occupations career clusters–The student will be able to:		
03.01	Discuss the history of health care services.	LAFS.910.RI.1.1 LAFS.910.SL.1.1a,d	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
			LAFS.910.W.2.4	
	03.02	Identify the basic components of the health care delivery system.		
	03.03	List at least 2 occupations for each health science pathway, 3 types of services provided by each career chosen and perform at least 2 skills for each career chosen:		
		03.03.01 Therapeutic Services		
		03.03.02 Diagnostic Services		
		03.03.03 Health Informatics		
		03.03.04 Support Services	LAFS.910.SL.2.6 LAFS.910.L.1.1 LAFS.910.L.1.2 LAFS.910.W.2.6	
		03.03.05 Biotechnology Research and Development		
	03.04	Demonstrate Vision Screening.		
	03.05	Demonstrate ability to test for hearing using simple tools.		
	03.06	Demonstrate ability to test reflexes.		
04.0	Demonstrate basic health skills. – The student will be able to:			
	04.01	Perform proper handwashing technique.		
	04.02	Demonstrate proper application and disposal of Personal Protective Equipment (gloves, gown, mask, goggles)		
	04.03	Demonstrate the use of basic body mechanics technique.		
	04.04	Demonstrate how to prevent accidents, injuries and infection in accordance with OSHA standards.		
	04.05	Demonstrate fire safety in medical facilities including RACE and PASS procedures.		
	04.06	Recognize the parts of the chain of infection and how to break it.		
	04.07	Demonstrate and record vital signs.	MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
05.0	Demonstrate first aid, CPR and BLS –The student will be able to:			

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
05.01	Describe wounds and the appropriate first aid treatment.	LAFS.910.W.2.4 LAFS.910.SL.2.4 LAFS.910.RI.1.1	
05.02	Identify various types of shock and their treatments.		
05.03	Recognize types of poisoning and treatment.		
05.04	Identify classifications of burns and their appropriate treatment.		
05.05	Describe ill effects of heat and cold and the appropriate first aid for each.	LAFS.910.W.2.4 LAFS.910.SL.3.4 LAFS.910.RI.1.1	
05.06	Demonstrate immobilization for suspected fractures.		
05.07	Recognize the signs, symptoms, and appropriate first aid for each of the following: 05.07.01 Heart attack 05.07.02 Fainting and seizures 05.07.03 Diabetic reactions 05.07.04 Stroke		
05.08	Describe first aid for foreign objects in the eye and ear.	LAFS.910.W.2.4 LAFS.910.SL.2.4 LAFS.910.RI.1.1	
05.09	Perform skills in BLS.		
05.10	Describe first aid for choking.		
05.11	Determine the priority of care in an emergency situation.	LAFS.910.SL.2.6	
05.12	Demonstrate activation of the Emergency Medical System (EMS).	LAFS.910.SL.2.6	
06.0	Discuss legal aspects for the health consumer–The student will be able to:		
06.01	Explain how the "Good Samaritan" Law protects the first responder in emergency situations.	LAFS.910.RI.3.9 LAFS.910.W.1.2 LAFS.910.SL.1.1c	
06.02	Define advanced directives and health care surrogate.		
06.03	Discuss legal procedures for donating organs.	LAFS.910.SL.1.1c	
06.04	Discuss the need for health insurance and the different types available (Affordable Care Act, Medicaid, Medicare, Private insurance).	LAFS.910.SL.1.1d	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
07.0	Discuss the factors that affect whole body wellness. –The student will be able to:		
07.01	Define stress/stressors.	LAFS.910.RI.1.3	
07.02	Identify problem solving skills to resolve stress.	LAFS.910.RI.1.3	
07.03	Demonstrate stress reduction techniques.	LAFS.910.RI.2.4	
07.04	Demonstrate knowledge of Mental Health as a legitimate illness, equivalent to all general health conditions.		
07.05	Demonstrate knowledge of skin cancer with a focus on melanoma.		
07.06	Identify factors that explain why health occupations are emotionally and physically demanding.	LAFS.910.SL.1.1c	
08.0	Identify the needs of the terminally ill–The student will be able to:		
08.01	Define stages of grief related to death and dying.	LAFS.910.RI.2.4 LAFS.910.RI.1.3	
08.02	Describe mortuary science.	LAFS.910.W.2.4 LAFS.910.SL.2.4 LAFS.910.RI.1.1 LAFS.910.RI.2.4	
08.03	Discuss and describe services provided by funeral directors/funeral homes.	LAFS.910.RI.2.4	
08.04	Discuss and describe services provided by Hospice.	LAFS.910.W.3.7	
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS–The student will be able to:		
09.01	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens.	LAFS.910.RI.3.8	
09.02	Identify community resources and services available to the individual with diseases caused by blood borne pathogens.	LAFS.910.W.3.8	
09.03	Identify at risk behaviors which promote the spread of HIV/AIDS and the public education necessary to combat the spread of diseases caused by blood borne pathogens.	LAFS.910.W.3.8 MAFS.912.S-IC.1.1 MAFS.912.S-IC.2.6	
09.04	Demonstrate knowledge of the legal aspect of HIV/AIDS, including testing.	LAFS.910.SL.1.1D LAFS.910.L.1.1	
09.05	Apply infection control techniques designed to prevent the spread of diseases to the care of all patients following Centers for Disease Control (CDC) guidelines.	LAFS.910.RI.3.9	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
10.0	Relate the use of computers in the health care field–The student will be able to:		
10.01	Differentiate between the various computer based diagnostic studies in healthcare (Ex. XRay, MRI, CTScan, CPET).	LAFS.910.W.3.7	
10.02	Discuss how computers affect legal and ethical questions in the health field.	LAFS.910.W.3.8	
10.03	Discuss how HIPPA regulations affect the privacy of electronic health records.	LAFS.910.W.3.8 LAFS.910.W.3.9	
11.0	Demonstrate employability skills–The student will be able to:		
11.01	Locate and identify local job openings in health care.	LAFS.910.W.3.7	
11.02	Complete a job application.	LAFS.910.W.2.4 LAFS.910.W.2.6	
11.03	Prepare for a job interview.	LAFS.910.SL.1.1B	
11.04	Discuss professionalism and the ethical role and responsibility of the healthcare worker.	LAFS.910.SL.1.1C	

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Special Notes

The cooperative method of instruction is not appropriate for this course.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Course Title: **Health Science Education Cooperative OJT**
Course Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Cooperative Education - OJT	
Course Number	8400410
CIP Number	03179999CP
Grade Level	10-12, 30, 31
Standard Length	Multiple credits
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science cluster(s); provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science cluster(s).

Each student job placement must be related to the job preparatory program in which the student is enrolled or has completed.

The purpose of this course is to provide the on-the-job training component when the **cooperative method of instruction** is appropriate. Whenever the cooperative method is offered, the following is required for each student: a training agreement; a training plan signed by the student, teacher and employer, including instructional objectives; a list of on-the-job and in-school learning experiences; a workstation which reflects equipment, skills and tasks which are relevant to the occupation which the student has chosen as a career goal; and a site supervisor with a working knowledge of the selected occupation. The workstation may be in an industry setting or in a virtual learning environment. The student **must be compensated** for work performed.

The teacher/coordinator must meet with the site supervisor a minimum of once during each grading period for the purpose of evaluating the student's progress in attaining the competencies listed in the training plan.

Health Science Cooperative OJT may be taken by a student for one or more semesters. A student may earn multiple credits in this course. The specific student performance standards which the student must achieve to earn credit are specified in the Cooperative Education - OJT Training Plan.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary course structure:

Course Number	Course Title	Teacher Certification	Length	Level	Graduation Requirement
8400410	Health Science Education Cooperative OJT	ANY HEALTH OCCUP G *(See DOE approved list)	Multiple credits	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Perform designated job skills.
02.0 Demonstrate work ethics.

Florida Department of Education
Student Performance Standards

Program Title: **Health Science Education Cooperative OJT**
Secondary Number: **8400410**

Standards and Benchmarks	
01.0	Perform designated job skills--The student will be able to:
	01.01 Perform tasks as outlined in the training plan.
	01.02 Demonstrate job performance skills.
	01.03 Demonstrate safety procedures on the job.
	01.04 Maintain appropriate records.
	01.05 Attain an acceptable level of productivity.
	01.06 Demonstrate appropriate dress and grooming habits.
02.0	Demonstrate work ethics--The student will be able to:
	02.01 Follow directions.
	02.02 Demonstrate good human relations skills on the job.
	02.03 Demonstrate good work habits.
	02.04 Demonstrate acceptable business ethics.

Additional Information

Special Notes

There is a **Cooperative Education Manual** available online that has guidelines for students, teachers, employers, parents and other administrators and sample training agreements.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is/are the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Exercise Science**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417000
CIP Number	0331050405
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 39-9031 Fitness Trainers and Aerobics Instructors

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.
The content includes but is not limited to planning, management, finance, technical and production skills, applied aspect of leadership, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Work based learning experiences are an integral part of this program.

The purpose of this program is to prepare students for the wellness and fitness marketplace and its various components such as instructing or coaching groups or individuals in exercise activities and the fundamentals of an individual's health and wellness. Personal trainers demonstrate techniques and methods of participation and observe participants and inform them of corrective measures necessary to improve their skills and personal health.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G (See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417120	Exercise Science	PH THER TEC @7 G HEALTH FIT SPEC 7G MED PROF 7 G	1 credit	39-9031	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%

8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417120	46/87 56%	20/80 25%	5/83 6%	20/69 29%	1/67 1%	20/70 29%	21/69 30%	2/82 2%	15/66 23%	2/74 3%	20/72 28%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417120	8/67 12%	14/75 19%	8/54 15%	**	**	**	**

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-33 encompass Health and Wellness 3 :

28.0 Identify and classify management and human resource strategies.
29.0 Demonstrate a working knowledge of current and legal issues in fitness and wellness.
30.0 Identify and describe fiscal and facility development.
31.0 Identify and describe basic human anatomy and physiology in relation to personal fitness or personal training.
32.0 Define, identify and describe basic fitness, wellness, and exercise prescription and programming concepts.
33.0 Classify and demonstrate competence and skill in the care and prevention of athletic injuries.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Health and Wellness 3/ Exercise Science**
Course Number: **8417120**
Course Credit: **1**

Course Description:

This course prepares students to be employed as Personal Trainers. Content includes, but not limited to, identifying and practicing within the appropriate scope of practice for a personal trainer, develop and implement exercise programs for apparently healthy individuals or those who have medical clearance to exercise, proficiency in the appropriate fitness equipment used, as well as a foundation in the musculo-skeletal system of the body.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Identify and classify management and human resource strategies–The student will be able to:		
28.01	Identify management leadership styles.		
28.02	Identify the major functions of management.		
28.03	Classify activities as part of the planning function of management.		
28.04	Classify activities as part of the organizing function of management.		
28.05	Classify activities as part of the staffing function of management.		
28.06	Classify activities as part of the directing /controlling function of management.		
28.07	Select the most effective communication system.		
28.08	Demonstrate knowledge of the relationship between authority and responsibility to task accomplishment.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	28.09 Identify the different stages of goal setting.		
29.0	Demonstrate a working knowledge of current and legal issues in fitness and wellness–The student will be able to:		
	29.01 Demonstrate an understanding of negligence and basic legal terms.		
	29.02 Demonstrate an understanding of contract law.		
	29.03 Demonstrate an understanding of labor laws and their purpose in Florida.		
	29.04 Demonstrate an understanding of workers compensation law.		
	29.05 Demonstrate an understanding of tort law and its significance in the health field.		
	29.06 Demonstrate an understanding of disability laws.		
	29.07 Identify the personal trainers' responsibilities and duties within their legal scope of practice.		
	29.08 Discuss the legal and ethical consequences of drug use with a focus on performance enhancing drugs and supplements.		
	29.09 Outline and present a current and/or legal issue related to fitness and wellness.		
30.0	Identify and describe fiscal and facility development–The student will be able to:		
	30.01 Identify various types of budgets.		
	30.02 Identify sources to become fiscally responsible as an exercise science professional.		
	30.03 Prepare a budget spreadsheet that identifies the components of a budget.		
	30.04 Identify requisitions and purchase orders and their use.		
	30.05 Describe and design a process of inventory control.		
	30.06 Describe the importance of a market analysis for the construction of a training facility.		
	30.07 Identify the individuals in groups in the planning process of construction.		
	30.08 Discuss the sources of funding for the construction of a facility.		
	30.09 Design a training facility that includes identifying the sources of		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
funding.		
31.0 Identify and describe basic human anatomy and physiology in relation to personal fitness or personal training–The student will be able to:		SC.912.L.14.13 SC.912.L.14.14 SC.912.L.14.16 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.27 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.40 SC.912.L.14.42 SC.912.L.14.44 SC.912.L.14.46 SC.912.L.14.47 SC.912.L.14.48 SC.912.L.14.49 SC.912.L.14.50 SC.912.L.14.52 SC.912.L.16.3 SC.912.L.18.6 SC.912.L.18.8
31.01 Analyze directional terms referring to areas of the body.		
31.02 Evaluate the construct of the human skeleton form, including the structure and function of the different types of muscles.		
31.03 Compare and contrast the different muscle contractions including concentric, eccentric and isometric.		
31.04 Identify the origin, insertion and action for each major muscle.		
31.05 Evaluate the anatomy and physiology of each of the following systems and how they interact with each other: 31.05.01 nervous system 31.05.02 immune		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
31.05.03 lymphatic 31.05.04 vascular 31.05.05 circulatory 31.05.06 cardiac 31.05.07 pulmonary 31.05.08 respiratory 31.05.09 digestive 31.05.10 urinary 31.05.11 reproductive		
32.0 Understand the theories and practices of exercise physiology- The students will be able to:		SC.912.L.14.39 SC.912.L.16.18 SC.912.L.18.2 SC.912.L.18.3 SC.912.L.18.4 SC.912.N.1.1
32.01 Perform patient education utilizing concepts of communication and differing learning styles.		
32.02 Classify health fitness standards, including components of wellness, and describe health appraisals, fitness assessments and exercise prescriptions.		
32.03 Compare and contrast lifestyle factors that improve health and increase longevity.		
32.04 Describe the relationship between the agonist, antagonist, fixators and synergist for muscle movement.		
32.05 Demonstrate an understanding of common training types.		
32.06 Identify risk factors that may interfere with safe participation in exercise		
32.07 Assess and research various techniques to assess body composition and its relationship to assessment of recommended body weight.		
32.08 Evaluate and explain the physiology of weight loss and management.		
32.09 Prepare and explain a beneficial lifetime exercise program and staying healthy in relation to cardio-respiratory exercise prescriptions.		
32.10 Define cardio-respiratory endurance and the benefits of cardio-respiratory endurance training.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	32.11 Define aerobic and anaerobic exercise and examples of each.		
	32.12 Define and identify the principles that govern cardio-respiratory exercise prescription: Frequency, Intensity, Time and Type of Exercise.		
	32.13 Demonstrate an understanding of length tension relationship and how it relates to muscles.		
	32.14 Demonstrate an understanding of the concept of force coupling and how it relates to muscles.		
	32.15 Differentiate between muscular strength and muscular endurance and types.		
	32.16 Define and understand muscular flexibility.		
	32.17 Define and understand the role of fitness in relation to stress management and maintaining health.		
	32.18 Evaluate the physiological effects of illness, alcohol, tobacco and drugs.		
	32.19 Describe the relationship between fitness and aging.		
	32.20 Define and describe factors on how to select appropriate exercise.		
	32.21 Demonstrate safe and proper techniques in using fitness, protective and personal training equipment.		
	32.22 Prepare and creatively present experiences to help individuals enhance their personal health, as well as develop sound programs for others.		
	32.23 Design a comprehensive training program.		
33.0	Classify and demonstrate competence and skill in the care and prevention of injuries – The students will be able to:		
	33.01 Demonstrate skills necessary to recognize the causes and preventative measures associated with athletic participation.		
	33.02 Demonstrate knowledge and understanding of the care and prevention of fitness related injuries.		
	33.03 Discuss the selection and use of appropriate modalities for athletic injuries.		
	33.04 Identify acceptable selection and usage of reconditioning techniques.		
34.0	Apply principles of nutrition and wellness in assessing health and wellness. The student will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
34.01	Demonstrate an understanding of supplementation including benefits, indications and contraindications		
34.02	Define basic nutrition and describe its relationship to health, wellness, and weight management.		
34.03	Discuss the national Dietary Guidelines for Americans.		
34.04	Identify and describe the relationship between nutrition, diet and athletic performance.		
34.05	Create a nutrition and wellness research paper.		
35.0	Perform medical office management duties. - The student will be able to:		
35.01	Evaluate different types of patient scheduling.		
35.02	Determine scheduling needs of the healthcare facility.		
35.03	Explain protocol for no-show, missed, cancelled or follow up appointments.		
35.04	Perform diagnostic testing using appropriate procedures.		
35.05	Explain processes, procedures and standardized forms as they pertain to patients.		
35.06	Demonstrate and follow financial procedures as it pertains to patients/clients.		
35.07	Analyze federal guidelines as pertains to a healthcare facility, to include, but not limited to OSHA, HIPPA, SDS, CMS.		
35.08	Perform office opening and closing procedures.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The purpose of the programs in this cluster is to prepare students for employment or advanced training in the health occupations industry. The programs in this cluster also provide students the opportunity to be cross-trained in a variety of entry level positions.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

However, In order for students to participate in the ACSM Certified Personal Trainer Certification exam they must be 18 years of age, have earned a high school diploma, and hold a current Adult AHA CPR certification.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Course Title: **Orientation to Nursing**
Course Type: **Orientation/Exploratory**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8417106
CIP Number	0351260302
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to basic information about the skills required, available, career paths, specializations, financial rewards, occupational hazards, and educational requirements. Information concerning the practices for promoting good health is included.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8417106	Orientation to Nursing	REG NURSE 7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse) LPN 7 G	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Discuss the history of nursing.
02.0 Discuss personal qualities essential to nurses.
03.0 Demonstrate an awareness of various career pathways for nursing and occupations.
04.0 Identify skills performed by various levels of nursing occupations.
05.0 Identify life stages and the health care needs of each.
06.0 Demonstrate basic communication skills.
07.0 Perform basic mathematical calculations and demonstrate problem solving skills used by nurses.
08.0 Demonstrate an understanding of the principles of wellness and disease.
09.0 Identify the general plan of anatomy and physiology of the human body and perform nursing skills utilized for each system.
10.0 Discuss various job settings for nurses.
11.0 Demonstrate employability skills related to nursing.
12.0 Demonstrate how to take vital signs and analyze the results.
13.0 Perform a basic head to toe assessment & document the findings.

Florida Department of Education
Student Performance Standards

Course Title: **Orientation to Nursing**
Course Number: **8417106**
Course Length: **Semester**

CTE Standards and Benchmarks	
01.0	Discuss the history of nursing. --The student will be able to:
01.01	Compare nursing care from ancient times to the present. For example: families, religious orders, wars, modern treatment and equipment.
01.02	Discuss early pioneers in nursing such as Clara Barton and Florence Nightingale.
01.03	Demonstrate knowledge of how advances in science have impacted beliefs and practices from ancient times to the present.
02.0	Discuss personal qualities essential to nurses. --The student will be able to:
02.01	Describe the personal traits of an ideal nurse.
02.02	List their own personal traits that would assist them in nursing and those that would need to be improved or developed.
02.03	Discuss the importance of legal and ethical behaviors as related to nursing.
03.0	Demonstrate an awareness of various career pathways for nursing and occupations. --The student will be able to:
03.01	Identify and classify what careers fall under the nursing service category and cluster (eg. C.N.A.s, PCTs, LPNs, ADNs, diploma R.N.s, B.S.N.s, M.S.N.s, PhDs, and DNPs) and identify various pathways to reach these levels.
03.02	List various institutions where training for nursing careers is available.
03.03	Identify types of education and training levels as it relates to nursing services/occupations.
03.04	List the advantages and disadvantages of one occupation including the following factors: job opportunities, salary ranges, fringe benefits, working conditions, and occupational hazards.
04.0	Identify skills performed by various levels of nursing occupations. --The student will be able to:
04.01	Identify representative skills of nursing assistants and home health aides.
04.02	Identify representative skills of patient care technicians.
04.03	Identify representative skills of practical nurses.

CTE Standards and Benchmarks	
	04.04 Identify representative skills of professional nurses
	04.05 Identify representative skills of nursing specialties.
05.0	Identify life stages and the health care needs of each. --The student will be able to:
	05.01 Describe common health care needs from birth to death and identify how nurses help address those needs.
	05.02 Identify how nurses promote optimum health.
	05.03 Identify how cultural diversity/transcultural nursing affects health care needs at different life stages.
06.0	Demonstrate basic communication skills. --The student will be able to:
	06.01 Demonstrate interpersonal communication skills such as active listening, verbal, non-verbal and written language.
	06.02 Demonstrate the ability to break medical terms into their word parts.
	06.03 Discuss common abbreviations and symbols used in Nursing.
	06.04 Identify technology used in Nursing and the proper communication etiquette required for its' use.
07.0	Perform basic mathematical calculations and demonstrate problem solving skills used by nurses. --The student will be able to:
	07.01 Describe the importance of why accurate calculations and effective problem solving skills are required.
	07.02 Calculate mathematical problems and measurements related to Nursing.
	07.03 Measure artificial medication in various forms, for example syringes or medicine cups.
	07.04 Convert common weights, measure, and volumes to metric as applied in the health care setting.
	07.05 Accurately tell time using both standard and international/military time formats.
08.0	Demonstrate an understanding of the principles of wellness and disease. --The student will be able to:
	08.01 Describe how cultural and individual differences in lifestyles relate to wellness and quality of life and how these differences impact health problems of society.
	08.02 Demonstrate an understanding of the risk factors that contribute to illness.
	08.03 Identify consequences of substance abuse and high risk factors.
	08.04 Describe strategies for prevention of diseases including health screenings and examinations.

CTE Standards and Benchmarks	
08.05	Explain basic concepts of positive self-image, body and mental wellness and the effect stress has on both.
08.06	Explore the need for proper nutrition and water intake to maintain wellness.
09.0	Identify the general plan of anatomy and physiology of the human body and perform nursing skills utilized for each system. -- The student will be able to:
09.01	Describe the anatomical position of the body, defining basic body planes and directional terms.
09.02	Describe the anatomy and physiology of the respiratory system. 09.02.01 Describe illnesses/diseases related to the respiratory system. 09.02.02 Perform a basic assessment of respiratory rate and lung sounds.
09.03	Describe the anatomy and physiology of the integumentary system. 09.03.01 Describe illnesses/diseases related to the integumentary system. 09.03.02 Identify the various wounds related to the skin and their treatment.
09.04	Describe the anatomy and physiology of the skeletal system. 09.04.01 Describe illnesses/diseases of the skeletal system. 09.04.02 Identify types of fractures and splint/sling techniques.
09.05	Describe the anatomy and physiology of the muscle system. 09.05.01 Describe illnesses/diseases of the muscular system. 09.05.02 Perform ROM exercises.
09.06	Describe the anatomy and physiology of the digestive system. 09.06.01 Describe illnesses/diseases related to the digestive system. 09.06.02 Assess bowel sounds.
09.07	Describe the anatomy and physiology of the ear. 09.07.01 Describe illnesses/diseases related to the ear. 09.07.02 Perform the Rhinnes and Weber hearing test with a tuning fork. If available, test hearing with an audiometer.
09.08	Describe the anatomy and physiology of the eye. 09.08.01 Describe illnesses/diseases related to the eye. 09.08.02 Perform a vision exam using a Snellen eye chart
09.09	Describe the anatomy and physiology of the nervous system. 09.09.01 Describe illnesses/diseases related to the nervous system. 09.09.02 Perform a reflex exam using a reflex hammer.
09.10	Describe the anatomy and physiology of the circulatory system, including the heart. 09.10.01 Describe illnesses/diseases related to the circulatory system. 09.10.02 Demonstrate how to take a blood pressure.
09.11	Describe the anatomy and physiology of the excretory system. 09.11.01 Describe illnesses/diseases related to the excretory system. 09.11.02 Measure input & output.
09.12	Describe the anatomy and physiology of the immune system. 09.12.01 Describe the illnesses/disease related to the immune system.

CTE Standards and Benchmarks		
	09.12.02	Perform hand washing,
	09.12.03	Demonstrate the operation of a microscope
	09.12.04	Demonstrate the streaking of an agar plate.
10.0	Discuss various job settings for nurses. --The student will be able to:	
	10.01	Recognize various settings that employ nurses.
	10.02	Compare salaries and benefits of various levels of nursing and various employment settings.
	10.03	Discuss pros and cons of nursing jobs in various settings.
11.0	Demonstrate employability skills related to nursing. –The student will be able to:	
	11.01	Identify skills needed for employment as a nurse.
	11.02	At a minimum, demonstrate the skills used within nursing from the following list:
	11.02.01	Basic First Aid and CPR.
	11.02.02	Patient Menu Planning and Feeding Techniques.
	11.02.03	Measure and record temperature, pulse and respiration (TPR).
	11.02.04	Use of Wheelchairs, Crutches and/or Walkers.
	11.02.05	Perform a weight, height and BMI assessment.
	11.02.06	Graph the development of infant/child on a growth chart.
	11.02.07	Correctly perform making an occupied and unoccupied bed.
12.0	Demonstrate how to take vital signs and analyze the results. –The student will be able to:	
	12.01	Demonstrate how to take an oral, temporal, axillary and tympanic temperature and analyze the results.
	12.02	Demonstrate how to take a radial, carotid and apical pulse and analyze the results.
	12.03	Demonstrate how to take respiration and analyze the results
	12.04	Demonstrate how to take a blood pressure and analyze the results.
13.0	Perform a basic head to toe assessment & document the findings. –The student will be able to:	
	13.01	Perform a basic head to toe assessment and document the findings using correct terminology.

CTE Standards and Benchmarks
13.02 Demonstrate how to take a health history.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The purpose of this course is to acquaint students with career opportunities and job requirements in the field of nursing which will enable students to consider career objectives and interests.

Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

Special projects that are related to nursing are provided, including role playing activities of daily living as a handicapped individual, developing an emergency evacuation plan for their own home, menu planning and feeding techniques, applying slings, use of wheelchairs, and creating their own nursing career plan. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry make an important contribution to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Allied Health Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417130
CIP Number	0317029903
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to performing skills representative of one to three areas of allied health care in the laboratory and clinical settings. Major areas of allied health are defined as physical therapy, emergency, radiation, laboratory and respiratory medicine, and occupational therapy. Other areas of health, medicine, dentistry, or veterinary may be included, with instructor provided competencies. **Such competencies must remain at the aide level and not go beyond the scope of practice of unlicensed assistive personnel. Invasive procedures that fall into the nursing scope of practice are not to be added**. Clinical experience is defined as activities performed in the clinical setting under the supervision of a health professional duly certified/licensed in the selected occupational fields. Simulated labs are not a substitute for clinical experience. School certificates for this module must be for "Allied Health Assistant". Specific competencies may be listed on the back.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy & Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417131	Allied Health Assisting 3		1 credit	31-9099	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417131	46/87 53%	25/80 31%	15/83 18%	24/69 35%	3/67 4%	25/70 36%	35/69 51%	4/82 5%	20/66 30%	3/74 4%	25/72 35%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417131	8/67 12%	17/75 23%	8/54 15%	#	#	18/45 40%	18/45 40%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-29 encompass competencies specific to Allied Health Assisting 3 :

28.0 Perform skills representative of at least three major allied health areas in the school laboratory before beginning the clinical phase.
29.0 Successfully complete a clinical rotation in at least three major allied health areas.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Allied Health Assisting 3**
Course Number: **8417131**
Course Credit: **1**

Course Description:

In this course students will perform skills representative of one to three areas of allied health care in the laboratory and clinical settings. Major areas of allied health are defined as physical therapy, radiation, EKG, laboratory and respiratory medicine, and occupational therapy. Other areas of health, medicine, dentistry, or veterinary may be included with instructor provided competencies.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
28.0	Perform skills representative of 1-3 major allied health areas in the school laboratory before beginning the clinical phase–The student will be able to:			SC.912.L.14.14 SC.912.L.14.34 SC.912.L.14.36 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.47 SC.912.L.18.11 SC.912.N.1.1 SC.912.P.11.10
28.01	Perform skills related to the body systems.			
28.02	If unlicensed clinical laboratory type skills is one of the selected allied health areas to be taught, only procedures that are exempt from clinical laboratory personnel licensure requirements will be presented and students will:			
	28.02.01	Perform waived testing on blood and urine.		
	28.02.02	Prepare blood slides for differential blood count.		
	28.02.03	Plate microbiological specimen on appropriate media.		
	28.02.04	Report urine specific gravity, color and characteristics.		
	28.02.05	Perform centrifuge operation and maintenance.		
	28.02.06	Name (or identify) and explain the use of the common instruments/equipment found in the clinical laboratory.	LAFS.1112.L.3.6 LAFS.1112.RI.2.4	
	28.02.07	Demonstrate knowledge of specimen differentiation and procedure		

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		interference's.		
	28.02.08	Perform communication skills specifically related to laboratory science.	LAFS.1112.SL.1.1b	
	28.02.09	Discuss the process of performing venipunctures.		
	28.02.10	Name and discuss the specialty areas within laboratory (hematology, clinical chemistry, microbiology, etc.)	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
	28.02.11	Explain the criteria set forth in CLIA to classify laboratory testing as waived, moderate complexity or high complexity.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
	28.02.12	Explain the levels and qualifications for testing personnel as set forth in CLIA (complexity based) and as established by state law (licensure categories).	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
	28.02.13	Practice and demonstrate how to properly and safely use a microscope.		
28.03	If unlicensed physical restorative type skills is one of the selected allied health areas to be taught, students will:			SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.14 SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.17 SC.912.L.14.18 SC.912.L.14.19 SC.912.L.14.20 SC.912.N.1.1 SC.912.P.10.4
	28.03.01	Describe the functions of bones and muscles as related to the practice of physical therapy.	LAFS.1112.SL.2.6	
	28.03.02	Define disability and identify types of disabilities.	LAFS.1112.SL.2.6	
	28.03.03	Name and discuss the avenues of physical therapy practice.	LAFS.1112.SL.1.2	
	28.03.04	Describe equipment used in physical therapy.	LAFS.1112.RI.1.1	
	28.03.05	Teach crutch and walker use and care.	LAFS.1112.SL.1.1a	
	28.03.06	Perform safe body mechanics and transfer	LAFS.1112.SL.2.4	
	28.03.07	Demonstrate an understanding of the use of modalities (i.e. Ultrasound, heat and cold therapeutic massage, E-STEM, wound care, elastic stockings)	LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
	28.03.08	Perform hydrotherapy.		
	28.03.09	Perform communication skills specifically related to physical therapy.	LAFS.1112.SL.1.1b	
	28.03.10	Identify, describe, and demonstrate the use of devices.	LAFS.1112.SL.2.4	
	28.03.11	Demonstrate techniques used in active and passive range of motion exercises.		

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
	28.03.12	Instruct patients in bed/wheelchair mobility.	LAFS.1112.SL.2.4	
	28.03.13	Describe the relationship between long-term and short-term goals.	LAFS.1112.RI.1.3	
28.04	If unlicensed occupational restorative type skills is one of the selected allied health areas to be taught, students will:			SC.912.N.1.1
	28.04.01	Assist clients to eat using prompting.		
	28.04.02	Identify augmented communication devices and purposes of each.		
	28.04.03	Describe equipment used in occupational therapy.	LAFS.1112.RI.1.1	
	28.04.04	Make splints.		
	28.04.05	Perform feeding and dressing skills using adaptive equipment.		
	28.04.06	Perform feeding and dressing skills using one hand.		
	28.04.07	Perform communication skills specifically related to occupational therapy.	LAFS.1112.SL.1.1b	
	28.04.08	Perform and instruct range and motion exercises.	LAFS.1112.L.3.6	
	28.04.09	Name and discuss the avenues of occupational therapy practice.	LAFS.1112.W.3.8	
	28.04.10	Train the client in clothing care skills.	LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
	28.04.11	Train the client in food preparation skills.	LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
	28.04.12	Train the client in money management skills.	LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
28.05	If unlicensed respiratory restorative type skills is one of the selected allied health areas to be taught, students will:			SC.912.L.14.36 SC.912.L.14.37 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.L.14.41 SC.912.L.14.44 SC.912.N.1.1
	28.05.01	Name and discuss the avenues of Respiratory Care Practice.	LAFS.1112.W.3.8	
	28.05.02	Describe common respiratory diseases (asthma, emphysema, chronic bronchitis, and atelectasis) and common medications used to treat respiratory diseases.	LAFS.1112.W.3.8 LAFS.1112.L.3.6	
	28.05.03	Recognize normal breath sounds when auscultating the chest with a stethoscope.		
	28.05.04	Assemble and practice using gas reducing and flow regulating equipment.		

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
	28.05.05	Demonstrate and discuss the use of incentive spirometers.	LAFS.1112.W.2.4 LAFS.1112.W.3.8 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
	28.05.06	Differentiate between various oxygen delivery devices (nasal cannulas, simple and re-breathing masks, oxyhoods, enclosures.	LAFS.1112.W.2.4 LAFS.1112.W.3.8	
	28.05.07	Stock shelves with, process, and perform preventative maintenance on respiratory care equipment.		
	28.05.08	Check emergency equipment assigned to respiratory care.		
	28.05.09	Demonstrate/discuss the use of postural drainage and percussion.	LAFS.1112.W.2.4 LAFS.1112.W.3.8	
	28.05.10	Discuss and practice the use of the pulse oximeter.		
	28.05.11	Describe the equipment and use of humidity/aerosol.	LAFS.1112.W.2.4 LAFS.1112.W.3.8	
28.06	If medical administrative assisting type skills is one of the selected allied health areas to be taught, students will:			SC.912.P.10.18
	28.06.01	Demonstrate an understanding of basic medical terminology e.g. prefixes, suffixes and root words related to major body systems.	LAFS.1112.RI.2.4 LAFS.1112.L.3.4	
	28.06.02	Demonstrate an understanding of straight numerical, alphabetical and terminal digit filing.		
	28.06.03	Demonstrate computer literacy, keyboarding and retrieval skills.		
	28.06.04	List procedures for scheduling and referring patients, and handling walk-in emergency patients.		
	28.06.05	Understand what is required to create and submit a medical bill	LAFS.1112.RI.1.1	
	28.06.06	Define a Release of Medical Information, Explanation of Benefit, Assignment of Benefit and Electronic Remittance Advice.	LAFS.1112.L.3.6 LAFS.1112.RI.2.6	
	28.06.07	Develop an understanding of healthcare coverage and be able to interpret the information contained on the patient's insurance card.	LAFS.1112.RI.1.1 LAFS.1112.RI.4.10	
	28.06.08	Understand the financial terms and procedures involved in operating a medical office practice, including Income, Expense, Accounts Receivable, Accounts payable, Cash and Accrual Accounting, Write-off Adjustments.	LAFS.1112.L.3.4c	
28.07	If unlicensed Radiologic type skills is one of the selected allied health areas to be taught, students will:			SC.912.L.14.36
	28.07.01	Compare and contrast the development of x-rays through digital media or through film.		
	28.07.02	Identify the function of a cassette, film, and screen.	LAFS.1112.RI.1.3	
	28.07.03	Describe how radiation produces an image on film and through	LAFS.1112.RI.1.3	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		digital technology.		
	28.07.04	Identify the process by which x-ray film is developed.		
	28.07.05	Process a film through an automatic processor.	LAFS.1112.L.3.4c	
	28.07.06	Identify anatomical position and terminology medial, lateral, superior, inferior, anterior/ventral, and posterior/dorsal).	LAFS.1112.SL.2.4	
	28.07.07	Identify patient properly (check identification band, etc.)	LAFS.1112.SL.2.6 LAFS.1112.SL.2.4	
	28.07.08	Explain appropriate exam(s) to the patient.	LAFS.1112.SL.2.4	
	28.07.09	Perform safe body mechanics and transferring skills of patient onto x-ray table.		
	28.07.10	Position patient for exam(s) (chest, KUB, hand and foot).		
	28.07.11	Position x-ray tube to simulate exposure for exam(s) (chest, KUB, hand and foot).		
	28.07.12	Position patient in supine, prone, lateral, oblique, AP, PA of appropriate part.		
28.08	If unlicensed phlebotomy aide type skills are to be taught, students will:			SC.912.L.14.36 SC.912.N.1.1
	28.08.01	Demonstrate accepted professional communication and interpersonal skills of a phlebotomist.	LAFS.1112.SL.2.6	
	28.08.02	Discuss phlebotomy in relation to the health care setting.	LAFS.1112.SL.1.2	
	28.08.03	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.		
	28.08.04	Recognize and identify collection reagents, supplies, equipment and interfering chemical substances.		
	28.08.05	Demonstrate skills and knowledge necessary to perform phlebotomy.	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	28.08.06	Practice accepted procedures of transporting, accessioning and processing specimens.		
	28.08.07	Practice quality assurance and safety.		
	28.08.08	Discuss the process of performing venipuncture.		
28.09	If unlicensed geriatric type skills are to be taught, (for students completing nurse assisting only) students will:			SC.912.L.14.51 SC.912.L.14.52
	28.09.01	Recognize types of long term care facilities and levels of care.		
	28.09.02	Be familiar with legislation affecting long term care.	LAFS.1112.RI.3.8	
	28.09.03	Discuss physical and emotional effects of aging and appropriate ways of dealing with them.	LAFS.1112.SL.2.6	
	28.09.04	Recognize the stages of dementia and the care of residents in each stage.	LAFS.1112.SL.1.1d	
	28.09.05	Discuss reality orientation, reminiscing, and validation therapy.	LAFS.1112.SL.1.2	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.09.06	Describe the effects of aging on nutritional needs.	LAFS.1112.W.2.4	
28.09.07	Provide for the safety of the elderly and chronically ill patient, including prevention of falls, prevention of infections, provision of a safe environment and prompt attendance to patients' needs.		
28.09.08	Check integrity of patient's skin condition and take appropriate actions when needed.		
28.09.09	Recognize common chronic illnesses and the special care required.		
28.09.10	Provide appropriate end of life care.		
28.09.11	Describe common medications taken by the elderly and chronically ill, their effects, and side effects.		
28.10	If electrocardiograph technician skills are to be taught, students will:		SC.912.L.14.36 SC.912.N.1.1
28.10.01	Describe the cardiovascular system.	LAFS.1112.SL.1.2 LAFS.1112.RI.1.3 LAFS.1112.SL.2.6	
28.10.01.1	Correlate the anatomy of the heart to the placement of leads for an EKG including special needs populations.		
28.10.01.2	Correlate the electrical conduction system of the heart to the rhythms.		
28.10.01.3	Compare and contrast polarization, depolarization and repolarization as it applies to patient care scenarios.		
28.10.01.4	Describe the usual pattern of electrical flow through the conduction system including the five major areas and physical layout.		
28.10.01.5	Give the inherent rates for the SA node, the AV junction, and the ventricles.		
28.10.02	Demonstrate an understanding of the role and responsibilities of the EKG/ECG tech.		
28.10.02.1	Recognize and practice legal and ethical responsibilities as they relate to an EKG tech.	LAFS.1112.RI.3.8	
28.10.02.2	Prepare and maintain all EKG equipment		
28.10.02.3	Identify patient and verify the requisition order.		
28.10.02.4	State precautions required when performing diagnostic procedures.		
28.10.02.5	Recognize a cardiac emergency.		
28.10.03	Demonstrate knowledge of, apply and use medical instrumentation modalities.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
28.10.03.1	Calculate a patient's heart rate from the EKG tracing (for example 6-second method)	LAFS.1112.SL.2.4	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		28.10.03.2 Perform a 12 lead EKG		
	28.10.04	Recognize normal and abnormal monitoring.	LAFS.1112.L.1.1	
28.11	If unlicensed veterinary type skills is one of the selected allied health areas to be taught, students will:			SC.912.L.14.52 SC.912.L.15.6 SC.912.L.16.10 SC.912.N.1.1
	28.11.01	Discuss ethical considerations related to animal care and use.	LAFS.1112.RI.3.8	
	28.11.02	Describe Science within the animal care industry.	LAFS.1112.SL.1.1a	
	28.11.03	Identify common domestic animal species and breeds.		
	28.11.04	Apply academic skills to animal care situations terminology, veterinary medical dosages.	LAFS.1112.L.3.6	
	28.11.05	Describe basic concepts of animal nutrition.	LAFS.1112.L.3.6	
	28.11.06	Provide appropriate general care to a variety of common companion animal species.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.07	Safely handle, restrain, confine, and examine companion animals,	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.08	Demonstrate proper grooming techniques for animals.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.09	Socialize young animals and basic obedience train dogs.		
	28.11.10	Describe and demonstrate procedures for identifying, preventing, and controlling diseases of companion animals and zoonotic diseases.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.11	Demonstrate basic knowledge of laboratory procedures used in veterinary practice.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.12	Assist with veterinary nursing procedures.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.11.13	Demonstrate knowledge of veterinary office procedures.		
28.12	If housekeeping type skills is one of the selected allied health areas to be taught, students will:			
	28.12.01	Organize and maintain supplies and equipment.		
	28.12.02	Use housekeeping equipment		
	28.12.03	Care for and distribute laundry.		
	28.12.04	Perform housekeeping activities.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.12.05	Care for the cleaning and maintenance of horizontal and vertical surfaces within facility.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	28.12.06	Identify chemicals and their proper use		
	28.12.07	Demonstrate safety, security, and sanitation skills.	LAFS.1112.SL.1.1d	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
			LAFS.1112.L.1.1	
28.13	If biomedical research type skills is one of the selected allied health areas to be taught, students will:			SC.912.L.14.6 SC.912.L.15.15 SC.912.L.16.1 SC.912.L.16.2 SC.912.L.16.3 SC.912.L.16.4 SC.912.L.16.5 SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.8 SC.912.L.16.9 SC.912.L.16.10
	28.13.01	Comprehend technical vocabulary.	LAFS.1112.L.3.6	
	28.13.02	Document lab results accurately.		
	28.13.03	Recognize hazardous lab conditions.		
	28.13.04	Maintain safe work environment, including but not limited to correct handling, storing, and disposing of hazardous materials, and use of personal protective equipment.		
	28.13.05	Research regulatory bodies (OSHA, NIH, NR, DOT, EPA, CDC, NRC, CLIA, DEA and FDA)	LAFS.1112.W.3.9b LAFS.1112.W.3.7	
	28.13.06	Discuss testing methods and inspection procedures in relation to quality control.	LAFS.1112.SL.1.1a	
	28.13.07	Monitor environmental conditions of research facility (growth chamber, greenhouse, seed storage room, animal housing or manufacturing site).		
	28.13.08	Discuss the proper utilization of test plants and animals.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	28.13.09	Prepare solutions and reagents for laboratory use.		
	28.13.10	Operate laboratory equipment.		
	28.13.11	Identify common microorganisms.		
	28.13.12	Explain how to culture and perform bioassays.		
	28.13.13	Discuss genetic engineering skills.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	28.13.14	Utilize problem solving skills.		
	28.13.15	Practice asepsis.		
	28.13.16	Discuss sterilization techniques, including proper packaging of sterile	LAFS.1112.SL.1.2	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	goods.	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
29.0	Successfully complete a clinical rotation in at least 3 major allied health areas--The student will be able to:		
29.01	Demonstrate skills in the clinical setting as outlined in the above standard.		
29.02	Complete three (3) clinical rotations under the supervision of a duly licensed/certified allied health care worker.		
29.03	Exhibit behavior consistent with the professional ethics required of each of the allied health areas being studied.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

For each skill set, the teacher certification used must also be able to teach programs that encompass the competencies being taught. The teacher certifications that teach the individual skill sets should be experienced and capable in the skills themselves in order to teach.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Anatomy and Physiology and Health Science Foundations courses, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Aide**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417140
CIP Number	0351060103
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to provide classroom theory and practical application in tasks related to dental office asepsis and sterilization and disinfection procedures in the dental environment. It is designed to prepare students for employment as dental aides specializing as dental sterilization technicians (industry title) SOC 31-9099 (Healthcare Support Workers, all other) in a dental office or clinic, or to pursue advanced postsecondary dental science education.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points.The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or

remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417141	Dental Aide 3	DENTL ASST @7 7G	1 credit	31-9099	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417141	0/87 0%	0/80 0%	0/83 0%	0/69 0%	0/67 0%	0/70 0%	0/69 0%	0/82 0%	0/66 0%	0/74 0%	0/72 0%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417141	12/67 18%	16/75 21%	11/54 20%	12/46 26%	12/45 27%	#	#

*** Alignment pending review* *# Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 31-43 encompass competencies specific to Dental Aide 3:

28.0 Use dental terminology.
29.0 Identify structures and explain functions and pathologies of dental anatomy.
30.0 Identify disease prevention and perform infection control procedures.
31.0 Describe the legal and ethical responsibilities of the dental health care worker.
32.0 Identify, describe, and maintain dental instruments and equipment.

33.0 Identify properties and uses of dental materials which include gypsum, restorative material, acrylics, dental cements, impression materials and waxes.
34.0 Describe basic dental laboratory procedures.
35.0 Describe dental assisting duties.
36.0 Identify specialty dental procedures.
37.0 Identify dental business office procedures.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Dental Aide 3**
Course Number: **8417141**
Course Credit: **1**

Course Description:

This course provides classroom theory and practical application in tasks related to dental office asepsis and sterilization and disinfection procedures in the dental environment. It is designed to prepare completers for employment as dental aides specializing as dental sterilization technicians. It also provides an introduction to dentistry and dental assisting.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Use dental terminology--The student will be able to:		
28.01	Identify and define common dental terms.	LAFS.910.L.3.6	SC.912.N.1.1
28.02	Demonstrate the use of proper dental terminology in the dental environment.	LAFS.910.W.1.2 LAFS.910.SL.2.4	SC.912.N.1.1
29.0	Identify structures and explain functions and pathologies of dental and general head and neck anatomy--The student will be able to:		
29.01	Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, nerves and blood vessels. Identify embryonic development of head, oral cavity, and teeth.	LAFS.910.SL.1.1 LAFS.910.SL.2.4 MAFS.912.G-CO.1.5	SC.912.L.14.11 SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.17 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.39 SC.912.L.14.46 SC.912.L.14.52
29.02	Identify teeth and their landmarks.	LAFS.910.SL.1.1 LAFS.910.SL.2.4	SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.19

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	29.03 Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.		SC.912.L.14.12
	29.04 Recognize and describe oral pathological conditions.	MAFS.912.S-CP.1.5	SC.912.L.14.6
30.0	Identify principles of microbiology and disease prevention and perform infection control procedures--The student will be able to:		
	30.01 Differentiate between pathogenic and non-pathogenic microorganisms.	LAFS.910.RI.3.9 LAFS.910.RI.4.10	SC.912.L.14.6
	30.02 Describe pathogens and modes of disease transmission.	LAFS.910.RI.3.9 LAFS.910.RI.4.10	SC.912.L.14.6 SC.912.L.14.52
	30.03 Differentiate between aseptic and non-aseptic environments.	LAFS.910.RI.3.9 LAFS.910.RI.4.10	SC.912.L.14.6 SC.912.L.14.52
	30.04 Perform aseptic handwashing technique.	LAFS.910.SL.2.4	SC.912.L.14.6
	30.05 Describe and apply methods of cleaning, disinfection and sterilization.	LAFS.910.SL.2.4	SC.912.L.14.6
	30.06 Identify chemicals and their uses for controlling the spread of disease in the dental environment.	LAFS.910.SL.2.4 LAFS.910.W.3.7	SC.912.L.14.6
	30.07 Identify and practice the current CDC guidelines for infection control in dental healthcare settings.	LAFS.910.RI.4.10 LAFS.910.RI.1.2	SC.912.L.14.6
	30.08 Describe the duties of the dental office safety coordinator.	LAFS.910.RI.4.10	SC.912.N.1.1
	30.09 Identify areas of the OSHA Blood borne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.	LAFS.910.RI.4.10	SC.912.N.1.1
31.0	Describe the legal and ethical responsibilities of the dental health care worker--The student will be able to:		
	31.01 Define commonly used legal vocabulary relating to dentistry.	LAFS.910.L.3.6	
	31.02 Describe legal and ethical consideration/obligations in the dental team-patient relationship.	LAFS.910.RI.3.9	
	31.03 Explain risk management.	LAFS.910.RI.1.1	
	31.04 Identify areas of Florida Statute 466 and Rule 64B5-16 FAC applicable to practice by the dental health workers.	LAFS.910.RI.1.2	
32.0	Identify, describe, and maintain dental instruments and equipment--The student will be able to:		
	32.01 Identify various types, functions, and operations of dental operatory and laboratory equipment.	LAFS.910.L.3.6 LAFS.910 RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.N.1.1

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
32.02 Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.N.1.1
32.03 Maintain dental operatory equipment and instruments.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.N.1.1
32.04 Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.N.1.1
33.0 Identify properties and uses of dental materials which include gypsum, restorative material, acrylics, dental cements, impression materials and waxes--The student will be able to:		
33.01 Demonstrate an understanding of the composition of dental materials, their physical properties and chemical properties and the manner in which the properties relate to manipulation.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.P.8.2
33.02 Describe the manipulative skills necessary to properly prepare dental materials for use both intraorally and extra orally.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI 4.10 LAFS.910.SL.2.4	SC.912.N.1.1
33.03 Identify the primary objectives of the Council on Dental Materials and Devices of the American Dental Association.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	
33.04 Identify organizations responsible for establishing standards for dental materials.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4 MAFS.912.N-Q.1.3	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
33.05	Describe the physical conditions in the oral cavity which influence the selection of dental materials.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.P.8.2 SC.912.P.8.11
33.06	Describe the biological characteristics of dental materials which may limit their use in the oral cavity.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	SC.912.P.8.2 SC.912.P.8.11
33.07	List factors which must be considered when selecting dental materials.	LAFS.910.L.3.6 LAFS.910.RI.3.9 LAFS.910.RI.4.10 LAFS.910.SL.2.4	
33.08	Define terms related to dental materials and science.	LAFS.910.L.3.6	
34.0	Describe basic dental laboratory procedures--The student will be able to:		
34.01	Identify properties and manipulate gypsum.	LAFS.910.L.3.8 LAFS.910.RI.3.9 LAFS.910.RI.4.10	SC.912.P.8.2 SC.912.P.10.7
34.02	Identify properties and manipulate impression materials.	LAFS.910.L.3.8 LAFS.910.RI.3.9 LAFS.910.RI.4.10 MAFS.912.A-CED.1.1	SC.912.P.8.2
34.03	Identify properties and manipulate extra orally used waxes.	LAFS.910.L.3.8 LAFS.910.RI.3.9 LAFS.910.RI.4.10	SC.912.P.8.2
34.04	Perform laboratory infection control.	LAFS.910.SL.2.4	SC.912.N.1.1 SC.912.L.14.6
35.0	Describe dental assisting duties--The student will be able to:		
35.01	Describe and demonstrate procedures used to evacuate and maintain the operating field.	LAFS.910.SL.2.4	SC.912.N.1.1

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
35.02 Assemble instruments for general/and specialty dental procedures.	LAFS.910.SL.2.4	
36.0 Identify specialty dental procedures--The student will be able to:		
36.01 Identify and describe oral maxillofacial surgery.	LAFS.910.L.3.6 LAFS.1112.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8	
36.02 Identify and describe orthodontics.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6	
36.03 Identify and describe periodontics.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6	
36.04 Identify and describe prosthodontics.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6	
36.05 Identify and describe pedodontics.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6	
36.06 Identify and describe endodontics.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6	
36.07 Identify and describe public health dentistry.	LAFS.910.L.3.6 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.L.3.6 MAFS.912.S-CP.1.5	
37.0 Identify dental business office procedures--The student will be able to:		
37.01 Describe appointment control.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.02 Describe an active recall system.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.03 Describe steps for maintaining accurate patient records.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.04 Describe steps for maintaining patient financial records and collecting fees.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.05 Describe methods of dental office inventory control.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.06 Describe public relations responsibilities of the secretary/receptionist.	LAFS.910.RI.1.2	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.910.RI.4.10	
37.07 Identify skills required for operating on office equipment.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	
37.08 Describe an optimal dental office environment.	LAFS.910.RI.1.2 LAFS.910.RI.4.10	

Additional Information

Laboratory Activities

Laboratory investigations, including the use of scientific research, measurement, and laboratory technologies are an integral part of this course. These activities include instruction in the use of safety procedures, tools, equipment, materials, and processes related to these occupations. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Laboratory Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417150
CIP Number	0317019902
Grade Level	9-12, 30, 31
Standard Length	4 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	51-9081 Dental Laboratory Technicians 31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as dental laboratory technician apprentices or dental laboratory assistants (51-9081 Dental Laboratory Technicians) or to pursue further education in the dental health field. Simulation laboratory experiences are integrated with the didactic portion of this program. Students perform tasks representative of dental laboratory practice.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of four courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G (See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417151	Dental Laboratory Assisting 3	DEN LABTEC 7G	1 credit	51-9081	2	VO
	8417152	Dental Laboratory Assisting 4		1 credit	51-9081	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417151	19/87 22%	20/80 25%	1/83 1%	24/69 35%	#	21/70 30%	20/69 29%	3/82 4%	16/66 24%	5/74 7%	20/72 28%
8417152	19/87 22%	19/80 24%	#	19/69 28%	#	19/70 27%	19/69 28%	#	14/66 21%	#	19/72 26%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417151	8/67 12%	14/75 19%	8/54 15%	**	**	**	**
8417152	8/67 12%	14/75 19%	8/54 15%	**	**	**	**

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or

interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze the both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-32 encompass competencies specific to Dental Laboratory Assisting 3 & 4:

28.0 Demonstrate communication and computational skills used in a dental laboratory.
29.0 Identify anatomic structure and function of body systems in relation to dental laboratory science.
30.0 Demonstrate computer literacy for dental labs.
31.0 Practice selected dental laboratory techniques.
32.0 Practice accepted principles of safety in the laboratory setting.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Dental Laboratory Assisting 3**
Course Number: **8417151**
Course Credit: **1**

Course Description:

This course provides an introduction to dental laboratory techniques and procedures while preparing the student for entry-level employment as a dental laboratory assistant in a dental laboratory.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Note: This course is pending alignment in the following categories: FS-M/LA

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Demonstrate communication and computational skills used in a dental laboratory–The student will be able to:		
28.01	Use appropriate dental terminology and abbreviations.		
28.02	Demonstrate the ability to interpret dental laboratory prescriptions.		
28.03	Demonstrate communication skills specific to the dental laboratory setting.		
29.0	Identify anatomic structure and function of body systems in relation to dental laboratory science--The student will be able to:		
29.01	Describe the structure and function of head and neck anatomy.		
29.02	Apply understanding of head and neck anatomy in relation to patient use of dental appliances.		
30.0	Demonstrate computer literacy for dental labs–The student will be able to:		
30.01	Describe the uses of computers in the health occupation being studied.		
30.02	Demonstrate computational, keyboarding and retrieval skills relevant to job requirements of the dental laboratory industry.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	30.03 Demonstrate computer skills in each clinical rotation.		
	30.04 Describe the use of CAD/CAM technology in the dental laboratory.		
31.0	Practice selected dental laboratory techniques–The student will be able to:		SC.912.P.8.1 SC.912.P.8.2 SC.912.P.8.11 SC.912.P.10.7 SC.912.P.12.12
	31.01 Fabricate a variety of dental models from impressions using appropriate gypsum products and techniques,		
	31.02 Fabricate selected provisional dental restorations.		
	31.03 Fabricate selected provisional dental prostheses.		
	31.04 Fabricate selected dental appliances such as athletic guards, night guards, and bleaching trays.		
	31.05 Fabricate custom impression trays and bite rims.		
32.0	Practice accepted principles of safety in the dental laboratory setting–The student will be able to:		SC.912.L.14.6 SC.912.L.17.16
	32.01 Demonstrate safe use, care and maintenance of equipment and materials.		
	32.02 Properly identify and label models, prostheses, etc.		
	32.03 Recognize atypical behavior.		
	32.04 Follow emergency procedures for a dental laboratory.		
	32.05 Demonstrate knowledge of sterile technique and disease prevention in the dental lab.		
	32.06 Implement appropriate joint commission patient safety goals.		

Florida Department of Education
Student Performance Standards

Course Title: **Dental Laboratory Assisting 4**
Course Number: **8417152**
Course Credit: **1**

Course Description:

This course may be taken concurrently with Dental Laboratory Assisting 3. This course is a continuation of Dental Laboratory Assisting 3 and will allow the student to practice all aspects of Dental Laboratory Assisting.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Electrocardiograph Aide**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417160
CIP Number	0351090202
Grade Level	9-12, 30, 31
Standard Length	2.5 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

The program is designed to prepare students for employment as EKG Aides (electrocardiograph aides) SOC 31-9099 (Healthcare Support Workers, all other).

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in

postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417161	Electrocardiograph Aide 3	LAB TECH @7 7G EKG 7G REG NURSE 7 G PARAMEDIC @7 7G MED ASST 7G TEC X RAY @7 7G RESP THER @7 7G MED PROF 7G LAB ASST @7 7G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	.5 credit	31-9099	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417161	31/87 36%	26/80 33%	4/83 5%	23/69 33%	3/67 4%	25/70 36%	24/69 35%	2/82 2%	21/66 32%	2/74 3%	26/72 36%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417161	8/67 12%	16/75 21%	8/54 15%	#	#	6/45 13%	6/45 13%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills.

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards
After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-31 encompass competencies specific to EKG Aide:

28.0 Describe the cardiovascular system.
29.0 Identify legal and ethical responsibilities of an EKG aide.
30.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
31.0 Perform patient care techniques in the health care facility.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Electrocardiograph Aide 3**
Course Number: **8417161**
Course Credit: **.5**

Course Description:

This course prepares students to be employed as Electrocardiograph aides. Content includes, but is not limited to, a foundation in the cardiovascular system, safety measures for the individual, co-workers and patients as well as training in the appropriate theories and instruments used by an Electrocardiograph Aide.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Describe the cardiovascular system--The student will be able to:		SC.912.L.14.6 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.49
28.01	Locate the heart and surrounding structures.	LAFS.1112.RI.3.7	
28.02	Diagram and label the parts of the heart and list the functions of each labeled part.	LAFS.1112.RI.3.7 LAFS.1112.W.2.4	
28.03	Trace the flow of blood through the cardiopulmonary system.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
28.04	Identify and describe the electrical conduction system.		
28.05	Describe the function of the autonomic nervous system.		
28.06	Describe a patient demonstrating poor perfusion and understand the importance of rapid reporting.		
29.0	Identify legal and ethical responsibilities of an EKG aide--The student will be able to:		SC.912.L.16.10 SC.912.N.1.1

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
29.01	Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.	LAFS.1112.W.2.4	
29.02	Maintain a safe and efficient work environment.	LAFS.1112.SL.1.2	
29.03	Maintain EKG equipment so it will be safe and accurate.	LAFS.1112.SL.1.2	
29.04	Implement appropriate Joint Commission patient safety goals and other applicable accrediting/regulatory agency guidelines.	LAFS.1112.SL.1.2	
30.0	Demonstrate knowledge of, apply and use medical instrumentation modalities--The student will be able to:		SC.912.L.14.37 SC.912.N.1.1 SC.912.P.10.20 SC.912.P.12.2 SC.912.P.12.9
30.01	Calibrate and standardize the cardiograph instrument.	LAFS.1112.SL.1.2	
30.02	Identify three types of lead systems.	LAFS.1112.SL.2.5 LAFS.1112.RI.3.7	
30.03	Demonstrate proper lead placement including lead placement for patients with special needs to include pediatric, posterior and right sided EKGs.	LAFS.1112.SL.1.2	
30.04	Identify artifacts and mechanical problems.	LAFS.1112.SL.1.2	
30.05	Perform a 12 lead EKG.	LAFS.1112.SL.2.5	
30.06	Recognize normal sinus rhythm.	LAFS.11.12.RI.3.7 LAFS.1112.SL.1.2	
30.07	Report any rhythm that is not normal sinus rhythm.	LAFS.1112.SL.2.5	
30.08	Use documentation skills to identify electrocardiographs.	LAFS.1112.RI.2.4 LAFS.1112.RI.3.7	
30.09	Recognize and respond cardiac emergency as seen on the EKG and understand the importance of rapid reporting.	LAFS.1112.SL.2.4 LAFS.1112.RI.2.4	
30.10	Use documentation skills to identify electrocardiographs.	LAFS.1112.SL.2.4	
31.0	Perform patient care techniques in the health care facility--The student will be able to:		SC.912.N.1.1
31.01	Describe the physical and mental preparation of the patient for EKG testing.	LAFS.1112.W.2.4	
31.02	Identify patient and verify the requisition order.	LAFS.1112.W.2.4	
31.03	Prepare patient for cardiovascular diagnostic testing.	LAFS.1112.SL.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
31.04	State precautions required when performing diagnostic procedures.	LAFS.1112.SL.2.4	
31.05	Convey the importance of maintaining a safe patient environment and evaluate potential hazards in each environment.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Responder**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417170
CIP Number	0317020502
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

This is an instructional program that prepares individuals to provide initial care to sick or injured persons or as ambulance drivers and attendants SOC 53-3011. An Emergency Medical Responder may use this training for employment. The Emergency Medical Responder is the first to arrive at the scene of an injury but does not have the primary responsibility for treating and transporting the injured person(s). Emergency Medical Responders may include law enforcement, life guard, fire services or basic life support non-licensed personnel who act as part of an organized emergency medical services team.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417171	Emergency Medical Responder 3	REG NURSE 7 G PARAMEDIC @7 7G MED PROF 7 G EMT 7G LAW ENF @7 7G CORR OFF 7G PUB SERV 7G FIRE FIGHT @7 7G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	1 credit	53-3011	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417171	50/87 57%	28/80 35%	8/83 10%	28/69 41%	3/67 4%	27/70 39%	29/69 42%	5/82 6%	24/66 36%	9/74 12%	32/72 44%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417171	10/67 15%	18/75 24%	8/54 15%	#	#	16/45 36%	16/45 36%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

National Standards (NS)

The student performance standards for Emergency Medical Responder were adapted and condensed from U. S. Department of Transportation Emergency Medical Services; National EMS Education Standards; Emergency Medical Responder Instructional Guidelines and American Society for Testing and Materials, Committee F-30. Administrators and instructors should refer to these materials for additional details.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-50 encompass competencies specific to Emergency Medical Responder 3:

28.0 Demonstrate an understanding of the roles and responsibilities of the Emergency Medical Responder.
29.0 Demonstrate an ability to communicate effectively as part of the EMS team.
30.0 Demonstrate an understanding of medicolegal aspects.
31.0 Determine and record vital signs of a sick or injured person.
32.0 Use medical identification devices.
33.0 Conduct a primary assessment of problems that are a threat to life if not corrected immediately.

34.0 Demonstrate BLS procedures
35.0 Recognize and control bleeding.
36.0 Recognize and control shock.
37.0 Understand the importance of emergency medications.
38.0 Demonstrate understanding of airway management, respiration and artificial ventilation.
39.0 Provide secondary assessment.
40.0 Identify musculoskeletal injuries.
41.0 Demonstrate proper immobilization of a Cervical/Spinal injury.
42.0 Demonstrate proper extremity immobilization as well as other immobilization for other injuries (pelvis, ribs).
43.0 Provide emergency evacuation and transfer of a sick and/or injured person
44.0 Identify and provide initial care for a sick and/or injured patient
45.0 Identify and care for patients who are in special situations
46.0 Provide triage to victims of multiple casualty incidents
47.0 Recognize life-threatening situations
48.0 Recognize entrapment situations
49.0 Assist with emergency childbirth
50.0 Identify critical incident stressors

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Emergency Medical Responder 3**
Course Number: **8417171**
Course Credit: **1**

Course Description:

This course prepares students to be employed as Emergency Medical Responders. Content includes, but not limited to, identifying and practicing within the appropriate scope of practice for an Emergency Medical Responder, demonstrating correct medical procedures for various emergency situations, proficiency in the appropriate instruments used, as well as a foundation in the musculoskeletal system of the body.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
28.0 Demonstrate an understanding of the roles and responsibilities of the Emergency Medical Responder--The student will be able to:		SC.912.L.17.16 SC.912.P.8.10 SC.912.P.8.11 SC.912.P.10.21 SC.912.P.12.1 SC.912.P.12.3 SC.912.P.12.5
28.01 Describe the role of Emergency Medical Responder as a member of the EMS Team.	LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.RI.4.10 LAFS.1112.W.1.2 LAFS.1112.W.4.10 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
28.02 List and describe the responsibilities of the Emergency Medical Responder for the provision of pre-hospital emergency care within the local EMS system.	LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.RI.4.10 LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.11.12.W.4.10 LAFS.1112.SL.2.4 LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.L.1.2	
	28.03 Describe principles of safely operating a ground ambulance.	LAFS.1112.RI.2.4 LAFS1112.RI.3.7 LAFS.1112.RI.4.10 LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.11.12.W.4.10 LAFS.1112.SL.2.4 LAFS.1112.L.1.1 LAFS.1112.L.1.2	
	28.04 Understand the guidelines of operating safety in and around a landing zone during air medical operations and transport.	LAFS.1112.RI.2.4 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
	28.05 Implement appropriate Joint Commission patient safety goals.	LAFS.1112.RI.2.4 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
29.0	Demonstrate an ability to communicate effectively as part of the EMS team--The student will be able to:		
	29.01 Demonstrate the proper procedure for the transfer of patient care to other EMS personnel.	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.L.1.1 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
	29.02 Describe information regarding a patient's condition and treatment that need to be communicated.	LAFS.1112.L.1.1 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
	29.03 Communicate the Emergency Medical Responder’s observations and actions to whomever patient care is transferred.	LAFS.1112.L.1.1 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
	29.04 Describe and apply the principles of communicating with patients in a manner that achieves a positive relationship.	LAFS.1112.L.1.1 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
	29.05 Recognize simple medical prefixes, suffixes and combining words.	LAFS.1112.L.1.1 LAFS.1112.L.3.4 LAFS.1112.L.3.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
30.0	Demonstrate an understanding of medicolegal aspects–The student will be able to:		SC.912.L.16.10
30.01	Describe and demonstrate an understanding of the medicolegal aspects of an Emergency Medical Responder's provision of emergency medical care in the jurisdiction having authority, including, but not limited to, duty to act, standard of care, consent to care, forcible restraint, abandonment, documentation and any applicable Good Samaritan Laws.	LAFS.1112.RI.4.10 LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.11.12.W.4.10 LAFS.1112.SL.2.4 LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.L.3.4 LAFS.1112.L.3.6	
30.02	Practice within medicolegal standards.		
31.0	Determine and record vital signs of a sick or injured person–The student will be able to:		SC.912.L.14.39 SC.912.L.14.40 SC.912.P.12.12
31.01	Determine and record skin color, temperature and moistness.	LAFS.1112.L.3.4 LAFS.1112.L.3.6 LAFS.1112.SL.1.2 LAFS.1112.SL.2.4	
31.02	Demonstrate ability to accurately measure and record vital signs including manual blood pressure.	LAFS.1112.L.3.4 LAFS.1112.L.3.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
32.0	Use medical identification devices–The student will be able to:		
32.01	Identify the most commonly used digital medical identification devices.	LAFS.1112.L.3.6	
32.02	Apply the information contained on or in the medical identification devices to patient assessment and patient care procedures.	LAFS.1112.L.3.6 LAFS.1112.SL.1.2	
33.0	Conduct a primary assessment of problems that are a threat to life if not corrected immediately–The student will be able to:		SC.912.L.14.25
33.01	Determine and record the level of consciousness of the injured person including person, place, time, and events.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
33.02	Assess for an inadequate airway, inadequate respiration's, inadequate circulation and profuse bleeding.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
33.03	Recognize when immediate correction is necessary.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
33.04	Assess patient and determine if the patient has a life threatening condition.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.2.6	
	33.05 Use spinal precautions as appropriate	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
34.0	Demonstrate BLS procedures–The student will be able to:		SC.912.L.14.36 SC.912.L.14.37 SC.912.P.10.15
	34.01 Establish and maintain an open airway using both manual and mechanical airway techniques.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	34.02 Restore breathing and circulation by means of cardiopulmonary resuscitation (CPR).	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	34.03 Demonstrate proficiency in the use of an automated external defibrillator (AED).	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
35.0	Recognize and control bleeding–The student will be able to:		SC.912.L.14.34 SC.912.L.14.40
	35.01 Identify items that can be used to control external bleeding and minimize the contamination of open wounds.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	35.02 Apply pressure dressings that will control bleeding and minimize the contamination of open wounds.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	35.03 Identify the likelihood of internal bleeding through observations of signs, symptoms and mechanisms of injury.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	35.04 Care for a patient who exhibits the signs and symptoms of internal bleeding.	LAFS.1112.SL1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	35.05 Apply current trauma treatment standards when applying a tourniquet which may include PreHospital Trauma Life Support (PHTLS) standards.		
36.0	Recognize and control shock–The student will be able to:		SC.912.P.10.15
	36.01 Recognize the likelihood that shock may occur or be present on the basis of patient assessment and observation of a mechanism of injury.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	36.02 Provide anti-shock measures as a part of routine patient care.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
37.0	Understand the importance of emergency medications–The student will be able to:		SC.912.L.14.44
37.01	Understand the advantages, disadvantages and techniques of self and peer administration of an intramuscular injection by Auto injector.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.1.1 LAFS.1112.RI.3.7	
37.02	Describe the names, effects, Indications, routes of administration and dosages for specific medications (I.E Chemical Antidote Auto injector Devices).	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 MAFS.912.N-Q.1.3	
38.0	Demonstrate understanding of airway management, respiration and artificial ventilation–The student will be able to:		SC.912.L.14.43
38.01	Apply knowledge of Anatomy and Physiology to airway management procedures (I.E. Oxygenation and perfusion)	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
38.02	Understand the pathophysiology of respiratory dysfunction.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
38.03	Use available mechanical devices to assure the maintenance of an open airway and assist ventilation according to American Heart Association (AHA) standards.)	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
38.04	Demonstrate proficiency in supplemental oxygen therapy including portable oxygen cylinder and oxygen delivery devices.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
38.05	Describe and demonstrate airway management utilizing of upper airway suctioning.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
39.0	Provide secondary assessment–The student will be able to:		SC.912.N.1.1
39.01	Conduct a methodical head-to-toe physical examination to discover conditions not found during the primary assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
39.02	Interview the sick or injured person to obtain facts relevant to the person's condition.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.1.3	
39.03	Interview co-workers, witnesses, family members, or other individuals to obtain facts	LAFS.1112.SL.1.2	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	relevant to the person's condition.	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.1.3	
40.0	Identify musculoskeletal injuries–The student will be able to:		SC.912.L.14.12 SC.912.L.14.25 SC.912.L.14.28 SC.912.P.12.3
40.01	Identify the various types of musculoskeletal injuries.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.L.3.6	
40.02	Immobilize and otherwise care for suspected fractures, dislocations, sprains and strains with available supplies and equipment, including commercially available and improvised devices.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
40.03	Demonstrate an understanding of the function and need for traction splints.		
41.0	Demonstrate proper immobilization of an Cervical/Spinal injury–The student will be able to:		SC.912.L.14.13 SC.912.L.14.14 SC.912.L.14.25 SC.912.L.14.28
41.01	Identify need for spinal immobilization	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
41.02	Maintain in-line immobilization of cervical spine	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
41.03	Place proper fitting rigid extrication-type cervical collar	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
41.04	Place patient in supine position on full length spine board	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
41.05	Secure patient to immobilization device	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
42.0	Demonstrate proper extremity immobilization as well as other immobilization for other injuries (pelvis, ribs)–The student will be able to:		SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.14
42.01	Identify need for extremity immobilization	LAFS.1112.SL.1.2	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
	42.02 Assesses motor, sensory, and distal circulation in extremities	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
	42.03 Place proper fitting splint on extremity	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	42.04 Reassesses motor, sensory, and distal circulation in extremities	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
43.0	Provide emergency evacuation and transfer of a sick and/or injured person–The student will be able to:		SC.912.N.1.1
	43.01 Describe situations when a person should be evacuated or transferred.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7 LAFS.1112.RI.4.10 LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.11.12.W.4.10 LAFS.1112.L.1.1 LAFS.1112.L.1.2	
	43.02 Use the most appropriate assist, drag or carry (alone or with a partner) to move a sick or injured person from a dangerous location to a safe place.	LAFS.1112.SL1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	43.03 Maintain safety precautions during evacuation and transfer.	LAFS.1112.SL1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
	43.04 Demonstrate an understanding of the purpose and use of transfer methods for patients including stair chairs and stretchers.		
44.0	Identify and provide initial care for a sick and/or injured patient–The student will be able to:		SC.912.L.14.2 SC.912.L.14.6 SC.912.L.14.21 SC.912.L.14.24 SC.912.L.14.29

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
			SC.912.L.14.30 SC.912.L.14.32 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.44 SC.912.L.14.46 SC.912.L.14.49 SC.912.L.14.50 SC.912.L.14.51
44.01	Identify and care for patients with non-traumatic chest pain, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.02	Identify and care for patients experiencing respiratory distress, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.03	Identify and care for patients experiencing a diabetic emergency, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.04	Identify and care for a patient who is experiencing a seizure, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.05	Identify and care for a patient who has ingested, inhaled, absorbed or been injected with a poisonous substance.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.06	Identify and care for a patient who is in an altered state of consciousness, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.07	Identify and care for a patient who is experiencing a stroke, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.08	Identify and care for a patient who has a foreign body in the eye, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.09	Identify and care for a patient with thermal, chemical, or electrical burns, determining the severity including degree, body surface area, type, and location.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
44.10	Identify and care for a patient suffering from an environmental emergency including heat cramps, heat exhaustion, heat stroke, and frostbite, utilizing patient assessment.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
45.0	Identify and care for patients who are in special situations–The student will be able to:		
45.01	Identify patients who have special needs.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.RI.3.7	
45.02	Care for injured/ill children.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
45.03	Care for the injured/ill elderly.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
45.04	Care for the injured/ill physically disabled.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
45.05	Care for the injured/ill developmentally disabled.	LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	
46.0	Provide triage to victims of multiple casualty incidents–The student will be able to:		
46.01	Categorize the victims of multiple casualty incidents according to the severity of injury or illness on the basis of patient assessments.	LAFS.1112.RI.3.7 LAFS.1112.SL.1.1 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4	
46.02	Use triage tags or other identification devices available locally to indicate priorities for pre-hospital emergency care and transportation to medical facilities.	LAFS.11.12.L.3.6	
46.03	Work as a member of a team to perform triage at locations of multiple casualty incidents.	LAFS.1112.SL.1.1 LAFS.1112.SL.1.3	
46.04	Work as a member of a team to perform patient assessments at locations of multiple casualty incidents.	LAFS.1112.SL.1.1 LAFS.1112.SL.1.3	
46.05	Work as a member of a team to carry out patient care procedures at the locations of	LAFS.1112.SL.1.1	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		multiple casualty incidents.		
	46.06	Demonstrate knowledge of the operating procedures during a terrorist event or during a natural or man-made disaster.	LAFS.1112.RI.3.7	
	46.07	Demonstrate a basic understanding of the Incident Command System (ICS) implemented by the Federal Emergency Management Agency (FEMA),		
	46.08	Discuss and demonstrate Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120 (q)(6)(i) –First Responder Awareness Level	LAFS.1112.RI.2.4 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.L.3.4 LAFS.1112.L.3.6 MAFS.912.N-Q.1.3	
47.0	Recognize life-threatening situations–The student will be able to:			
	47.01	Take steps to minimize the chance of injury or death to all involved when confronted with a potentially life-threatening situation on the basis of an assessment of a scene.	LAFS.1112.SL.1.2	
48.0	Recognize entrapment situations–The student will be able to:			SC.912.P.10.3
	48.01	Identify accident-related hazards and undertake hazard control measures consistent with the capabilities of the Emergency Medical Responder and available equipment.	LAFS.1112.SL.1.2	
	48.02	Use available equipment safely to gain access to persons who are entrapped.	LAFS.1112.SL.1.2	
	48.03	Use available equipment safely to disentangle persons from mechanisms of entrapment.	LAFS.1112.SL.1.2	
49.0	Assist with emergency childbirth–The student will be able to:			SC.912.L.14.33 SC.912.L.14.41
	49.01	Evaluate a mother to determine whether delivery is imminent.	LAFS.1112.SL.1.2	
	49.02	Assist with a normal delivery.		
	49.03	Care for the mother and baby.		
	49.04	Identify abnormal childbirth situations and care for the mother and baby within the Emergency Medical Responder's capabilities.	LAFS.1112.SL.1.2	
50.0	Identify critical incident stressors–The student will be able to:			SC.912.L.14.52 SC.912.L.16.8
	50.01	Identify stressors which may affect the performance of an Emergency Medical Responder.	LAFS.1112.SL.1.2	
	50.02	Identify stressors which may affect the behavior of a sick or injured person.	LAFS.1112.SL.1.2	
	50.03	Carry out procedures to minimize critical incident stress.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

In order for students to take the NREMT003 Emergency Medical Responder exam the program must be approved by the National Registry for Emergency Medical Technicians. To receive approval from NREMT each program must be “authorized” by the Bureau of Emergency Medical Services (EMS) by completing the instructor qualifications form required by Bureau of EMS.

The Emergency Medical Responder instructor shall issue to each student documentation of successful course completion which shall include date of issuance, student's name, name of sponsoring agency (DOE), name of training agency, and instructor's printed name and signature, plus the wording "issued pursuant to section 401.435 F.S." The instructor must also maintain on file following course completion, a roster listing the names of students who successfully completed the course, the dates and location of the course, and the name of the instructor.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Home Health Aide**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417190
CIP Number	0317040401
Grade Level	9-12, 30, 31
Standard Length	2.5 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1011 Home Health Aides 31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as home attendants or home health aides (SOC 31-1011).

The content includes, but is not limited to, instruction in those supportive services that are required to provide and maintain bodily and emotional comfort and to assist the patient toward independent living in a safe environment, as stated in Rules of the Department of Health and Rehabilitative Services, Division of Health, Chapter 10D-68 - Minimum Standards for Home Health Agencies. Clinical experiences, where the student may practice, demonstrate and perform the procedures associated with bedside client care, are an appropriate part of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417191	Home Health Aide 3	REG NURSE 7 G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	.5 credit	31-1011	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417191	30/87 34%	25/80 31%	6/83 7%	25/69 36%	2/67 3%	25/70 36%	28/69 41%	3/82 4%	21/66 32%	2/74 3%	25/72 35%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417191	9/67 13%	17/75 23%	8/54 15%	#	#	11/45 24%	11/45 24%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-39 encompass competencies specific to Home Health Aide 3:

28.0 Use verbal and written communications specific to Home Health Aide.
29.0 Demonstrate legal and ethical responsibilities specific to Home Health Aide.
30.0 Perform physical comfort and safety functions specific to Home Health Aide.
31.0 Provide personal patient care.
32.0 Perform patient care procedures.

33.0 Apply principles of nutrition.
34.0 Provide care for geriatric patients.
35.0 Apply the principles of infection control specific to Home Health Aide.
36.0 Provide bio-psycho-social support.
37.0 Perform supervised management functions, following the patient plan of care.
38.0 Assist with rehabilitative activities.
39.0 Perform home health-care services.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Home Health Aide 3**
Course Number: **8417191**
Course Credit: **.5**

Course Description:

This course prepare students to be employed as Home Health Aides, Content includes but is not limited to patient care and safety, geriatric patient care, nutrition principles, rehabilitation services as well as supervised management functions.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Use verbal and written communications specific to home health aide–The student will be able to:		SC.912.N.1.1
28.01	Obtain specified data from patient and family.	LAFS.1112.SL.1.1a	
28.02	Utilize verbal and written information to assist with the patient's plan of care.	LAFS.1112.L.1.1 LAFS.1112.SL.1.1d	
29.0	Demonstrate legal and ethical responsibilities specific to home health aide–The student will be able to:		SC.912.L.16.10
29.01	Demonstrate legal and ethical behavior within the role and scope of home health aide responsibilities.		
29.02	Follow policies and procedures concerning care as directed by the employer affecting the health, safety, and well-being of patients in the home setting.		
29.03	Recognize and report signs of substance abuse.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
29.04	Follow legal guidelines in charting.	LAFS.1112.RI.3.8	
29.05	Exhibit behavior supporting and promoting residents' rights.	LAFS.1112.SL.2.4	
29.06	Recognizes and follows limits if job restrictions.	LAFS.1112.RI.3.8	
30.0	Perform physical comfort and safety functions specific to home health aide–The student		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	will be able to:		
30.01	Maintain a clean and safe home environment for the patient.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.02	Adjust bed and side-rails.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.03	Transfer patient with mechanical lifters using proper body mechanics and patient safety measures.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.04	Turn and position patient.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.05	Apply protective devices as directed (e.g. vest or belt).	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.06	Apply comfort devices as directed (e.g. foot-board, over-bed cradle, alternating pressure mattress).	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.07	Assist patient to dangle.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.08	Assist patient in ambulation, including the use of crutch, cane, or walker.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.09	Assist patient in using wheelchair.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.10	Assist patient with care and use of prosthetic/orthotic devices.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
30.11	Administer back rub.	LAFS1112.SL.1.1d LAFS1112.L.1.1	
30.12	Identify emergency evacuation procedures with adaptations to the home setting.	LAFS.1112.SL.2.4	
30.13	Implement appropriate joint commission patient safety goals.	LAFS.1112.SL.2.4	
31.0	Provide personal patient care–The student will be able to:		
31.01	Give bed bath; observe and report changes in patient.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
31.02	Practice procedures for safety in the bathroom including the use of adaptive shower equipment such as shower chairs, long handled bath sponge, grab bars, extended shower hose, rubber mat in tub or shower, and rubber based rug outside the shower.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
31.03	Assist with shower or tub bath, including use of specialty tubs.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
31.04	Assist patient with sink, tub, shower, or bed shampoo.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	31.05 Shave patient.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	31.06 Groom patient, including hair, skin, foot, and nail care.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	31.07 Assist with and/or administer oral hygiene.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	31.08 Assist patient with toileting.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	31.09 Assist patient to dress.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	31.10 Assist patient with meals.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
32.0	Perform patient care procedures–The student will be able to:		
	32.01 Make unoccupied/occupied bed.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.02 Assist patient in passive range-of-motion exercises.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.03 Apply anti-embolic hose and sequential compression devices.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.04 Collect, strain, and/or test routine urine specimen.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.05 Monitor catheter drainage system.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.06 Monitor fluid intake and output (I&O), including forcing and restricting fluids.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1 MAFS.912.N-Q.1.3	
	32.07 Observe, record, and report patient's emesis.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1 MAFS.912.N-Q.1.3	
	32.08 Assist patient with moist and dry heat applications to include the sitz bath.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.09 Assist with ostomy care.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.10 Collect stool specimen.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
	32.11 Care for patients receiving oxygen therapy.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
33.0	Apply principles of nutrition–The student will be able to:		SC.912.L.18.1 SC.912.L.18.2 SC.912.L.18.4
33.01	Identify nutrients and food groups.	LAFS.1112.RI.3.8	
33.02	Explain regional, cultural, and religious food preferences.	LAFS.1112.SL.1.2	
33.03	Describe special diets.	LAFS.1112.RI.3.8	
33.04	List factors that must be considered when purchasing food.		
33.05	Prepare a basic food plan.	LAFS.1112.RI.3.8	
33.06	List factors that must be considered when storing food.		
33.07	Identify methods of maintaining fluid balance.		
33.08	Identify methods of food preparation.		
33.09	Discuss preparation and serving of trays in the home.	LAFS.1112.SL.1.2	
34.0	Provide care for geriatric patients–The student will be able to:		
34.01	Identify safety principles, as related to the elderly.	LAFS.1112.RI.1.3	
34.02	Describe general characteristics, particular needs, and problems of the elderly.	LAFS.1112.RI.1.3	
34.03	Identify attitudes and living habits that promote positive mental and physical health for the elderly.	LAFS.1112.RI.1.3	
34.04	Distinguish between fact and fallacy about the aging process.	LAFS.1112.W.3.8	
34.05	Identify community resources and services available to the elderly.	LAFS.1112.RI.1.3 LAFS.1112.W.2.6	
34.06	Apply Reality Orientation Techniques and Validation Therapy.	LAFS.1112.SL.1.1b LAFS.1112.SL.2.5	
34.07	Provide and involve patients in diversional activities.	LAFS.1112.SL.1.1b LAFS.1112.SL.2.5	
34.08	Identify common alterations in elderly patient behavior or health status and follow up within the home health aide scope of performance.	LAFS.1112.SL.1.1b	
34.09	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions).	LAFS.1112.SL.2.5	
35.0	Apply the principles of infection control specific to home health aide–The student will be able to:		SC.912.L.14.52 SC.912.L.16.8

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
35.01	Provide care for patients with infectious diseases in the home.	LAFS.1112.SL.2.5	
35.02	Follow isolation procedures with food tray, garments, and other materials in the home.	LAFS.1112.SL.2.5	
35.03	Utilize standard precautions in all home care.	LAFS.1112.SL.2.5	
36.0	Provide bio-psycho-social support–The student will be able to:		
36.01	Discuss family roles and their significance to health.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
36.02	Respond to patient and family emotional needs.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
37.0	Perform supervised management functions, following the patient plan of care–The student will be able to:		
37.01	Organize patient-care assignments.	LAFS.1112.W.4.1	
37.02	Complete assignments accurately and in a timely manner.	LAFS.1112.W.4.1 LAFS.1112.L.1.1	
38.0	Assist with rehabilitative activities–The student will be able to:		
38.01	List the purposes of restorative (rehabilitation) programs.	LAFS.1112.W.2.6	
38.02	Assist patient with specified restorative (rehabilitation) needs.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
38.03	Assist patients/residents to reach the optimum level of independence.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
39.0	Perform home health-care services–The student will be able to:		
39.01	Follow an established work plan with the patient and family.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
39.02	Perform patient-related cleaning tasks and laundry.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	
39.03	Identify methods for medication storage.		
39.04	Assist patient with taking self-administered prescribed medication in the home, and identify possible side effects and emergency procedures for adverse reactions in accordance with F.A.C. 59A-8.0095.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1 LAFS.1112.SL.1.2	
39.05	Demonstrate how to utilize equipment and supplies in the home.	LAFS.1112.SL.1.1d LAFS.1112.L.1.1	

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Please refer to 42CFR§484.36 for the clinical requirements for the Home Health Aide program.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio. .

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Section 59A-8.0095 Home Health Aide, Administrative Rules, Department of Health and Rehabilitative Services contain much valuable information for program planning. These rules require that if the Home Health Aide receives training through a vocational school where professional standards have been established in accordance with the State Board of Education, a certificate of successful completion shall be on file with the employer.

Students who have completed this program and the secondary program Nursing Assistant have met competencies for and may be known as Patient Care Assistants. This program may be taken simultaneously with Nursing Assistant.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Laboratory Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417200
CIP Number	0317030402
Grade Level	9-12, 30, 31
Standard Length	4 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2012 Medical and Clinical Laboratory Technicians 31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

The program is designed to prepare students for employment as medical/clinical lab technicians, (or medical lab assistants 29-2099 - Health Technologists and Technicians, All Other)

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of four courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417201	Medical Laboratory Assisting 3	LAB TECH @7 7G LAB ASST @7 7G TEC MED !7 G	1 credit	29-2012	3	VO
	8417202	Medical Laboratory Assisting 4		1 credit	29-2012	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417201	30/87 34%	23/80 29%	6/83 7%	23/69 33%	2/67 3%	22/70 31%	23/69 33%	5/82 6%	18/66 27%	2/74 3%	23/72 32%
8417202	27/87 31%	25/80 31%	6/830%	0/69 0%	0/67 0%	22/70 31%	0/69 0%	0/82 0%	0/66 0%	2/74 3%	23/72 32%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417201	9/67 13%	16/75 21%	8/54 15%	#	#	9/45 20%	9/45 20%
8417202	10/67 15%	18/75 24%	8/54 15%	#	#	5/45 11%	5/45 11%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or

interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-44 encompass Medical Laboratory Assisting:

28.0 Demonstrate accepted professional, communication, and interpersonal skills.
29.0 Discuss phlebotomy in relation to the health care setting.
30.0 Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
31.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
32.0 Demonstrate skills and knowledge necessary to perform phlebotomy.

33.0 Practice infection control following standard precautions
34.0 Practice accepted procedures of transporting, accessioning and processing specimens.
35.0 Practice quality assurance and safety.
36.0 Identify the federal and state laws which serve to regulate the provision of laboratory services, including CLIA, Florida Statutes, and Florida Administrative Code.
37.0 Demonstrate a basic understanding of ICD and CPT coding Systems.
38.0 Demonstrate basic knowledge of microbiology.
39.0 Demonstrate basic knowledge of urinalysis.
40.0 Demonstrate basic knowledge of clinical chemistry.
41.0 Demonstrate basic knowledge of hematology.
42.0 Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived).
43.0 Demonstrate basic knowledge of and perform Point of Care (POC) Testing using CLIA approved Waived instrumentation.
44.0 Successfully complete learning experiences in the clinical setting.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Medical Laboratory Assisting 3**
Course Number: **8417201**
Course Credit: **1**

Course Description:

This one credit course is the third course of a four course occupational completion point for Medical Lab Assistant. Live work is not recommended for this course. Students completing this course have also met the postsecondary requirements of phlebotomy except for clinical experiences with live work.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:		
28.01	Demonstrate the appropriate professional behavior of a phlebotomist.		
28.02	Explain to the patient the procedure to be used in specimen collection.	LAFS.1112.SL.2.4 LAFS.1112.RI.1.3	
28.03	Explain in detail the importance of identifying patients correctly when drawing blood.	LAFS.1112.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
28.04	Describe the scope of practice (job skills and duties) for a phlebotomist.		
28.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.		
28.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.		
29.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:		
29.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.	LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.W.2.4	

	29.02 Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.	LAFS.1112.RI.2.4	
	29.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).	LAFS.1112.W.2.4	
30.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:		SC.912.L.14.3 SC.912.L.14.4 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.37 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.L.14.41
	30.01 Describe and define major body systems with emphasis on the circulatory system.	LAFS.1112.RI.2.4 LAFS.1112.W.2.4	
	30.02 List and describe the main superficial veins used in performing venipuncture.	LAFS.1112.W.2.4	
	30.03 Locate the most appropriate sites(s) for capillary and venipuncture.		
	30.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.	LAFS.1112.W.2.4	
	30.05 Compare and contrast between serum and plasma as it relates to blood collection.		
	30.06 Discuss hemostasis as it relates to blood collection.		
31.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:		SC.912.L.14.35 SC.912.N.1.1
	31.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.	LAFS.1112.RI.2.4 LAFS.1112.W.2.4	
	31.02 Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.2.4	
	31.03 Identify and discuss proper use of supplies used in collecting micro-specimens.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.2.4 LAFS.1112.RI.2.4	
	31.04 Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.2.4 LAFS.1112.RI.2.4	

	31.05 Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.	LAFS.1112.W.2.4	
	31.06 Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.	LAFS.1112.W.2.4	
	31.07 Define and utilize correct medical terminology and metric measurement needed for specimen collection.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6 LAFS.1112.SL.2.4 MAFS.912.N-Q.1.3	
32.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:		SC.912.L.14.35 SC.912.L.14.36 SC.912.N.1.1
	32.01 Follow approved procedure for completing a laboratory requisition form.		
	32.02 Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.	LAFS.1112.RI.2.4	
	32.03 Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).		
	32.04 Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.	LAFS.1112.SL.2.6 LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
	32.05 List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.	LAFS.1112.W.2.4 LAFS.1112.RI.2.4	
	32.06 Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.		
	32.07 Describe the correct order of draw.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6	
	32.08 Describe the use of barcoding systems used for specimen collection.		
	32.09 Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.		
	32.10 Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.	LAFS.1112.W.2.4	
	32.11 Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.		
	32.12 Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.	LAFS.1112.W.2.4	
	32.13 Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.	LAFS.1112.W.2.4	

	32.14 Demonstrate the proper procedure for collecting blood cultures.		
	32.15 Discuss the effects of hemolysis and methods of prevention.		
	32.16 Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.		
33.0	Practice infection control following standard precautions. – The student will be able to:		SC.912.L.14.52 SC.912.N.1.1
	33.01 Define the term "nosocomial/ hospital acquired infection."	LAFS.1112.W.2.4	
	33.02 Describe and practice procedures for infection prevention including hand washing skills.	LAFS.1112.W.2.4	
	33.03 Discuss and perform transmission based precautions.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6	
	33.04 Identify potential routes of infection and their complications.	LAFS.1112.RI.2.4	
34.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:		SC.912.N.1.1
	34.01 Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6 MAFS.912.N-Q.1.3	
	34.02 Demonstrate knowledge of accessioning procedures.		
	34.03 Describe the significance of time constraints for specimen collection, transporting and delivery.	LAFS.1112.W.2.4 LAFS.1112.SL.2.6	
	34.04 Describe routine procedures for transporting and processing specimens including DOT packaging requirements.		
35.0	Practice quality assurance and safety. – The student will be able to:		SC.912.N.1.1
	35.01 Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.		
	35.02 Demonstrate knowledge of and practice appropriate patient safety.	LAFS.1112.SL.1.1a LAFS.1112.W.1.2b	
	35.03 Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.		
	35.04 Follow documentation procedures for work related accidents.	LAFS.1112.W.1.2b	
	35.05 Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.		

Florida Department of Education
Student Performance Standards

Course Title: **Medical Laboratory Assisting 4**
Course Number: **8417202**
Course Credit: **1**

Course Description:

This one credit course is the fourth course of a four course occupational completion point for Medical Lab Assistant. Students completing this course have also met the postsecondary requirements of Medical Lab Assisting except for clinical experiences involving live work.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
36.0	Identify the federal and state laws which serve to regulate the provision of laboratory services, including CLIA, Florida Statutes, and Florida Administrative Code.–The student will be able to:		
36.01	Explain the CLIA test complexity model and describe the characteristics required for FDA classification of a test as waived.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c	
36.02	Explain the categories of testing personnel established by both CLIA and Florida regulations and describe the basic educational and/or experiential qualifications for each category.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c	
36.03	Explain the differences in requirements for a physician practice laboratory, a hospital laboratory and an independent clinical laboratory.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c	
36.04	Describe Alternate Site Testing requirements as they apply to hospitals in Florida and compare and contrast these with the requirements for CLIA waived testing and Provider Performed Microscopy. Apply the concepts of Point-of-Care or Near Patient testing to these requirements.	LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS.1112.L.3.6	
36.05	Demonstrate an understanding of the concepts of “scope of practice”, “professional judgment”, and “duty/obligation to report”.		
37.0	Demonstrate a basic understanding of ICD and CPT coding Systems.–The student will be able to:		SC.912.N.1.1
37.01	Explain the characteristics of the International Classification of Disease System	LAFS.1112.W.1.2b,c	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	(ICD), and its important function in substantiating the clinical record.	LAFS.1112.SL.1.1a LAFS.1112.L.3.4c	
37.02	Explain the characteristics of Healthcare Common Procedure Coding System (HCPCS), including the two primary levels of codes, and its function in reporting medical procedures including laboratory testing.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a; LAFS.1112.L.3.4c	
37.03	Explain the differences between analyte, method, and unlisted procedure CPT codes and the hierarchy for selecting CPT codes for reporting laboratory tests.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c	
37.04	Describe the concept of medical necessity as set forth in National or Local coverage Decisions (NCD and LCD) for lab testing under the Medicare Program.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c LAFS.1112.L.3.6	
37.05	Review the concept of congressionally –mandated screening tests under the Medicare Program.	LAFS.1112.L.3.4c	
38.0	Demonstrate basic knowledge of microbiology.- The student will be able to:		SC.912.L.14.4 SC.912.L.14.6 SC.912.L.14.52 SC.912.N.1.1
38.01	Perform techniques of microbiology related to disinfection techniques.		
38.02	Discuss techniques of microbiology related to isolation techniques.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6	
38.03	Perform techniques of microbiology related to sterilization techniques.		
38.04	Perform techniques of microbiology related to slide preparation.		
38.05	Perform principles and use of the microscope.	MAFS.912.N-Q.1.3	
38.06	Understand the staining and microscopic examination of gram stains.	LAFS.1112.L.3.6	
38.07	Discuss techniques of microbiology related to inoculation and transfer of cultures.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6	
38.08	Perform basic techniques of microbiology	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.4c LAFS.1112.L.3.6	
38.09	Discuss classification, composition and preparation of culture media.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.L.3.6 MAFS.912.N-Q.1.3	
39.0	Demonstrate basic knowledge of urinalysis. –The student will be able to:		SC.912.L.14.47 SC.912.N.1.1
39.01	Understand urinalysis techniques related to normal and abnormal components of the urine.	LAFS.1112.L.3.6 MAFS.912.S-IC.2.6	
39.02	Perform urinalysis techniques related to collection and preservation of specimens.		
39.03	Perform urinalysis techniques related to physical properties of urine		
39.04	Perform urinalysis techniques related to dipstick urine pH and describe clinical significance.	MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.3	
39.05	Discuss urinalysis techniques related to urine specific gravity techniques.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.3	
39.06	Perform dipstick or tablet (non-automated) urinalysis techniques related to performance of chemical tests.		
39.07	Discuss urinalysis techniques related to microscopic identification of significant elements.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6	
39.08	Perform urinalysis techniques related to principles and use of centrifuge.	MAFS.912.N-Q.1.3	
40.0	Demonstrate basic knowledge of clinical chemistry. –The student will be able to:		SC.912.N.1.1 SC.912.P.10.18
40.01	Perform techniques of clinical chemistry related to metric measurement.	MAFS.912.N-Q.1.3	
40.02	Perform techniques of clinical chemistry related to labware and clinical equipment.		
40.03	Perform techniques of clinical chemistry related to reagent preparation, laboratory equipment and laboratory techniques.	MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
40.04	Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6 MAFS.912.S-IC.1.1	
40.05	Discuss the importance of Quality Assurance as it relates to patient results.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
40.06	Discuss techniques of clinical chemistry related to visual colorimetry, calibration and use of the spectrophotometer.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.N-Q.1.3 MAFS.912.S-IC.1.1	
40.07	Demonstrate an understanding of the relationship between common clinical chemical tests and specific body systems and disorders.	LAFS.1112.W.1.2 a, b, c LAFS.1112.W.2.4 LAFS.1112.L.3.6 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6 MAFS.912.S-IC.1.1 MAFS.912.S-IC.1.2 MAFS.912.S-MD.2.7	
41.0	Demonstrate basic knowledge of hematology.-The student will be able to:		SC.912.L.14.34 SC.912.N.1.1
41.01	Discuss techniques of hematology related to counting formed elements of blood.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.N-Q.1.3 MAFS.912.S-IC.1.1 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1	
41.02	Perform techniques of hematology related to preparation and staining.		
41.03	Discuss techniques of cell differential microscopic examination of blood films.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6	
41.04	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.		
41.05	Perform techniques of hematology related to spun hematocrit tests.		
41.06	Discuss techniques of hematology related to the use of platelet function analyzing instruments in addition to performing bleeding times.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.S-IC.2.6	
41.07	Perform techniques of hematology related to hemoglobin tests.	MAFS.912.S-IC.2.6, MAFS.912.S-MD.2.7	
41.08	Discuss techniques of hematology related to calculation of red blood cell indices.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
			MAFS.912.S-IC.1.2 MAFS.912.S-IC.2.6	
	41.09	Discuss basic techniques of hematology related to normal and abnormal physiology.	LAFS.1112.W.1.2b,c LAFS.1112.SL.1.1a LAFS.1112.L.3.6 MAFS.912.S-IC.1.1 MAFS.912.S-IC.1.2 MAFS.912.S-IC.2.6 MAFS.912.S-MD.2.7 MAFS.912.N-Q.1.3	
42.0	Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived)- The student will be able to			SC.912.N.1.1
	42.01	Demonstrate the ability to interpret instructions of point of care testing including , but not limited to the following:		
		42.01.01 Test principle		
		42.01.02 Storage & Stability		
		42.01.03 Internal vs. External Quality Control		
		42.01.04 Specimen collection & preparation		
		42.01.05 Directions for use		
		42.01.06 Interpretation of results		
		42.01.07 Interfering substances		
	42.02	Demonstrate and discuss knowledge of lot numbers use and importance in regard to both kits and reagents.		
	42.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.		
	42.04	Explain the CLIA 88 classification of laboratory testing into waived, moderate, and highly complex including the personnel qualified to perform each.		
43.0	Demonstrate basic knowledge of and perform Point of Care (POC) Testing using CLIA approved Waived instrumentation- The student will be able to			SC.912.N.1.1
	43.01	Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.		
	43.02	Demonstrate competence in instrument maintenance.		
	43.03	Demonstrate knowledge of quality control and calibrations involved within the		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	POC instruments.		
43.04	Identify normal limits and associate abnormal results with disease or disorders.		
43.05	Discuss the significance of reporting critical values as it applies to Point of Care testing.		
44.0	Successfully complete learning experiences in the clinical setting–The student will be able to:		SC.912.N.1.1
44.01	Observe and participate as appropriate in skills outlined in outcomes for medical lab assisting.		
44.02	Complete clinical rotations.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Simulation and clinical laboratory experiences are integrated with the didactic portion of this program. Clinical experience is defined as laboratory activities performed in the clinical setting under the supervision of a medical laboratory technician or technologist.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students completing the course Medical Laboratory Assisting 3 have also met the postsecondary requirements of phlebotomy except for clinical experiences involving venipuncture on actual patients.

Students completing the course Medical Laboratory Assisting 4 have also met the postsecondary requirements of Medical Lab Assisting except for some clinical experiences involving live work.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Nursing Assistant (Acute and Long Term Care)**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417210
CIP Number	0317060201
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1014 Nursing Assistants 31-9099 Healthcare Support Workers, All Other

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This course is designed to prepare students for employment as nursing assistants SOC- 31-1014 (Nursing Assistants) in nursing homes, hospitals, or other health care facilities.

The content includes, but is not limited to, interpersonal skills, medical terminology, legal and ethical responsibilities, safe and efficient work, gerontology, nutrition, pet-facilitated therapy, health and safety including Cardio-pulmonary Resuscitation (CPR) – heart saver level, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G*(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417211	Nursing Assistant 3	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	1 credit	31-1014	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

**** The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State

Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417211	35/87 40%	27/80 34%	6/83 7%	27/69 39%	4/67 6%	25/70 36%	28/69 41%	5/82 6%	23/66 35%	5/74 5%	26/72 36%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417211	14/67 21%	17/75 23%	10/54 19%	8/46 17%	8/45 18%	17/45 38%	17/45 38%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary

for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., **c**linical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction. In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-39 encompass competencies specific to Nursing Assistant:

28.0 Use verbal and written communications specific to nurse assisting
29.0 Demonstrate legal and ethical responsibilities specific to nurse assisting
30.0 Perform physical comfort and safety functions specific to nurse assisting
31.0 Provide personal patient care
32.0 Perform patient care procedures

33.0 Apply principles of nutrition
34.0 Provide care for geriatric patients
35.0 Apply the principles of infection control specific to nursing assisting
36.0 Provide biological, psychological, and social support
37.0 Perform supervised organizational functions, following the patient plan of care
38.0 Assist with restorative (rehabilitative) activities
39.0 Perform skills related to the hospital setting (optional)

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Nursing Assistant 3**
Course Number: **8417211**
Course Credit: **1**

Course Description:

This is a course designed to prepare the student to provide/assist with all aspects of activities of daily living for the adult patient in both hospital and nursing home settings. The course, which is taught by a registered nurse, includes didactic instruction, skills practice in the laboratory and clinical experience. Emphasis is also placed on the development of communication, interpersonal, problem solving and critical thinking skills.

Upon successful completion, the student is eligible to apply to sit for the Florida State Certified Nursing Assistant exam which qualifies as industry certification. The course is an exit point with an OCP B completion.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Use verbal and written communications specific to nurse assisting–The student will be able to:		
28.01	Obtain specified data from patient and family.	LAFS.910.SL.1.1c LAFS.910.RI.3.7 LAFS.1112.SL.1.1A,C LAFS.1112.RI.3.7	
28.02	Utilize verbal and written information to assist with the patient's plan of care.	LAFS.910.SL.1.1c LAFS.910.RI.3.7 LAFS.1112.SL.1.1D,C LAFS.1112.L.1.1 LAFS.1112.RI.3.7	
28.03	Demonstrate use of the communication system.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
29.0	Demonstrate legal and ethical responsibilities specific to nurse assisting–The student will be able to:		
29.01	Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.	LAFS.1112.RI.3.8	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
29.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)	LAFS.910.RI.2.4 LAFS.910.SL.2.4 LAFS.1112.W.1.2 LAFS.1112.RI.2.4 LAFS.1112.SL.2.4	
29.03	Follow policies and procedures affecting the health, safety, and well-being of patients.		
29.04	Recognize and report signs of substance abuse.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
29.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.		
29.06	Follow legal guidelines in documentation.	LAFS.1112.RI.3.8	
29.07	Demonstrate methods regarding risk management including prevention and quality of care.		
29.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.	LAFS.1112.SL.2.4	
29.09	Recognize that a C.N.A. must self-report any crimes they've been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).		
29.10	Discuss Florida certified nursing assistant rules including role limitations.		
29.11	Recognize potential for and prevention of medical errors.		
29.12	Discuss proper procedures to follow regarding medical errors.		
30.0	Perform physical comfort and safety functions specific to nurse assisting–The student will be able to:		
30.01	Maintain patient units and equipment.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.02	Maintain service areas on the units including supplies and equipment.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.03	Observe, report, and record changes in the patient's behavior daily, including mental awareness.	LAFS.1112.RI.1.2 LAFS.1112.W.1.2B	
30.04	Adjust bed and side-rails.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.05	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.06	Turn and position patient.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
30.07	Demonstrate the proper use of a gait belt in both transfer and ambulation.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.08	Transfer patient to stretcher.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.09	Apply protective devices as directed (e.g., vest and belt).	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.10	Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.11	Assist patient to dangle.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.12	Assist patient in ambulation, including the use of crutch, cane, or walker.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
30.13	Assist patient in using wheelchair.		
30.14	Assist patient with care and use of prosthetic/orthotic devices.		
30.15	Describe emergency procedures utilized in the clinical area(s).	LAFS.910.W.I.2.c LAFS.910.W.1.2.d LAFS.910.W.1.2.e LAFS.910.SL.2.4 LAFS.1112.SL.2.4 LAFS.1112.W.1.2.c,d,e	
30.16	Implement appropriate regulatory and accrediting agency patient safety guidelines.		
31.0	Provide personal patient care--The student will be able to:		
31.01	Give bed bath; observe and report changes in patient including skin and level of consciousness.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.02	Administer back rub.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.03	Assist with shower or tub bath, including the use of specialty tubs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.04	Assist patient with sink, tub, shower, or bed shampoo.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.05	Demonstrate the use of a safety and/or electric razor to shave the patient.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.06	Groom patient, including hair, skin, foot, hand and nail care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.07	Assist with and/or administer oral hygiene including denture care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
31.08	Assist patient with toileting using various types of restorative and rehabilitative equipment.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.09	Assist patient to dress.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.10	Assist patient with meals.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.11	Assist with bowel and bladder training.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.12	Assist and/ or provide perineal care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.13	Empty, measure and record urinary output and/or drainage.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
31.14	Assist patient with both donning and doffing prosthesis and brace.		
31.15	Demonstrate application and use of a leg bag, leg strap and dignity bag.		
31.16	Monitor and assist with the drainage of urostomy bags and colostomy bags.		
32.0	Perform patient care procedures–The student will be able to:		
32.01	Demonstrate ability to accurately measure, record and report vital signs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
32.02	Assist with the admission of a patient and/or resident.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.03	Assist with transfer of patient.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.04	Assist with discharge of patient.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.05	Make unoccupied/occupied bed.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.06	Measure and record patient's height and weight.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.2.5	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	MAFS.912.S-ID.2.6B	
32.07 Assist patient in passive range-of-motion exercises.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.08 Apply anti-embolic hose and sequential compression devices.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.09 Collect, strain, and/or test routine urine specimen.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.10 Collect timed urine specimen.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.3	
32.11 Collect clean-catch (midstream-voided) urine specimen.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.12 Record fluid intake and output (I&O).	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
32.13 Observe, record, and report patient's emesis.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.3	
32.14 Monitor and provide with care of urinary catheters and drainage systems for both males and females.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.15 Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.16 Collect stool specimen.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.17 Perform postmortem care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.18 Maintain patient-belongings list.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.19 Assist the nurse with care of the patient with complex medical needs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
32.20 Assist with the collection of a sputum specimen.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
33.0 Apply principles of nutrition–The student will be able to:		SC.912.L.18.1 SC.912.L.18.2 SC.912.L.18.4

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	33.01 Identify nutrients and food groups.	LAFS.910.RI.1.2 LAFS.1112.RI.3.8 LAFS.1112.RI.1.2	
	33.02 Explain regional, cultural, and religious food references.	LAFS.910.W.1.2c,d,e LAFS.910.SL.2.4 LAFS.1112.SL.1.2 LAFS.1112.W.1.2c,d,e LAFS.1112.SL.2.4	
	33.03 Describe special diets.	LAFS.910.W.1.2c,d,e LAFS.910.SL.2.4 LAFS.1112.RI.3.8 LAFS.1112.W.1.2c,d,e LAFS.1112.SL.2.4	
	33.04 Prepare a basic food plan.	LAFS.1112.RI.3.8 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
	33.05 Check patient's diet tray for accuracy.	LAFS.1112.SL.1.2	
	33.06 Demonstrate knowledge of the need for thickened liquids and fluid consistency.		
	33.07 Identify methods of maintaining fluid balance including forcing and restricting fluids.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
	33.08 Monitor and document Nutritional Intake.		
34.0	Provide care for geriatric patients–The student will be able to:		
	34.01 Identify methods and procedures to prevent pressure ulcers.		
	34.02 Identify methods to prevent falls in the elderly.		
	34.03 Identify safety principles as related to the elderly.	LAFS.910.RI.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.2	
	34.04 Describe general characteristics, particular needs, and problems of the elderly.	LAFS.910.RI.2.4 LAFS.1112.RI.1.3 LAFS.1112.RI.2.4	
	34.05 Identify attitudes and living habits that promote positive mental and physical health for the elderly.	LAFS.910.RI.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.2	
	34.06 Distinguish between fact and fallacy about the aging process.	LAFS.1112.W.3.8	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
34.07	Identify the need for community resources and services available to the elderly and their family.	LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.RI.1.3 LAFS.1112.W.2.6 LAFS.1112.W.3.7 LAFS.1112.W.3.8	
34.08	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).	LAFS.1112.SL.1.1B LAFS.1112.SL.2.5	
34.09	Provide and involve patients in diversional activities.	LAFS.1112.SL.1.1B LAFS.1112.SL.2.5	
34.10	Identify common alterations in elderly patient behavior.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.SL.1.1B LAFS.1112.RI.1.2	
34.11	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).	LAFS.1112.SL.2.5	
34.12	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.	LAFS.1112.RI.3.7	
34.13	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.		
34.14	Report concerns to the nurse related to drug use and abuse in the elderly patient.		
34.15	Identify components of the grief process.		
34.16	Demonstrate an understanding of end of life care, hospice and palliative care.		
35.0	Apply the principles of infection control specific to nursing assisting–The student will be able to:		
35.01	Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.	LAFS.1112.SL.2.5	
35.02	Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
35.03	Follow isolation procedure with food tray, garments, and other materials.	LAFS.1112.SL.2.5	
35.04	Collect specimen from patient in isolation.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
36.0	Provide biological, psychological, and social support–The student will be able to:		
36.01	Discuss family roles and their significance to health.	LAFS.910.SL.1.1a LAFS.1112.SL.1.1A,D LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	36.02 Respond to patient and family emotional needs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
37.0	Perform supervised organizational functions, following the patient plan of care–The student will be able to:		
	37.01 Organize patient-care assignments.	LAFS.1112.W.4.1	
	37.02 Complete assignments accurately and in a timely manner.	LAFS.1112.W.4.1 LAFS.1112.L.1.1	
38.0	Assist with restorative (rehabilitative) activities–The student will be able to:		
	38.01 List the purposes of restorative (rehabilitation) program.	LAFS.910.W.1.2e LAFS.910.W.2.4 LAFS.1112.W.1.2e LAFS.1112.W.2.4 LAFS.1112.W.2.6	
	38.02 Assist patient with specified restorative (rehabilitation) needs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	38.03 Assist patients/residents to reach the optimum level of independence.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
39.0	Perform skills related to the hospital setting (optional) –The student will be able to:		SC.912.L.14.11 SC.912.L.14.14 SC.912.L.14.51 SC.912.L.14.6 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.44
	39.01 Care for hospital equipment and supplies.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.02 Transfer patient to stretcher.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.03 Assist patient to apply binders.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.04 Care for patient in skin and skeletal traction.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.05 Assist with pre-operative and post-operative patient care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.06 Reinforce dressings under the supervision of the RN/LPN.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	39.07 Obtain and record an apical pulse.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	MAFS.912.N-Q.1.3	
39.08 Obtain and record an apical-radial pulse.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.3	
39.09 Obtain and record pedal pulse.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
39.10 Provide cast care and/or pin care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
39.11 Provide care for eye glasses, artificial eyes, and contact lens.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Students completing this program and the course Home Health Aide 3 have met the requirements for, and may be known as, Patient Care Assistants.

Following the completion of Health Science 1 and Health Science 2, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Vision Care Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417230
CIP Number	0317070202
Grade Level	9-12, 30, 31
Standard Length	4 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2081 Opticians, Dispensing

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as vision care assistants (Industry Title) at the aide level to assist opticians: dispensing and measuring, lens grinders, and other trained workers in the field of optics SOC 29-2081 (Opticians, Dispensing).

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of four courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G (See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417231	Vision Care Assisting 3	TEC OPTICS 7G	1 credit	29-2081	3	VO
	8417232	Vision Care Assisting 4		1 credit	29-2081	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%

8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8417231	30/87 34%	24/80 30%	5/83 6%	23/69 33%	3/67 4%	22/70 31%	22/69 32%	2/82 2%	18/66 27%	3/74 4%	24/72 33%
8417232	21/87 24%	21/80 26%	2/83 2%	21/69 30%	2/67 3%	20/70 29%	21/69 30%	2/82 2%	16/66 24%	2/74 3%	21/72 29%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417231	9/67 13%	15/75 20%	8/54 15%	#	#	7/45 16%	7/45 16%
8417232	10/67 15%	15/75 20%	8/54 15%	#	#	1/45 2%	1/45 2%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-37 encompass competencies specific to Vision Care Assisting 3 & 4:

28.0 Demonstrate knowledge of the visual system
29.0 Gather patient history and all relevant data in preparation for a complete eye exam
30.0 Prepare patients for and assist in testing for eye disorders
31.0 Perform medical administrative office tasks
32.0 Recognize patient needs in relation to lens characteristics

33.0 Demonstrate knowledge of frame selection techniques used in a dispensing office setting
34.0 Demonstrate knowledge of frame adjustment and alignment
35.0 Demonstrate and perform basic skills relating to lenses
36.0 Edge, tint and inspect a pair of glass or plastic lenses and insert into a frame
37.0 Dispense optical supplies

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Vision Care Assisting 3**
Course Number: **8417231**
Course Credit: **1**

Course Description:

This course is one of the two courses that prepare students to be Vision Care Assistants. Content includes, but is not limited to, care and maintenance of contact lenses and eyewear, basic skills pertaining to lens manufacturing, office support skills and patient safety.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Demonstrate knowledge of the visual system--The students will be able to:		
28.01	Identify the anatomy of the eye.	LAFS.1112.L.3.6	SC.912.N.1.1 SC.912.L.14.14 SC.912.L.14.21 SC.912.L.14.24 SC.912.L.14.11 SC.912.L.14.19 SC.912.L.14.22 SC.912.L.14.26 SC.912.L.14.39 SC.912.L.14.50
28.02	Describe the physiology of each part of the eye.	LAFS.1112.W.1.2	SC.912.L.14.19
28.03	Describe the visual pathway.	LAFS.1112.W.1.2	SC.912.L.14.24
28.04	Define refractive errors.	LAFS.1112.L.3.6	SC.912.P.10.22
28.05	Explain the most common conditions of the eye.	LAFS.1112.W.1.2	SC.912.L.14.6 SC.912.L.14.39 SC.912.L.14.50
29.0	Gather patient history and all relevant data in preparation for a complete eye exam--		

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
	The students will be able to:			
	29.01	Record personal information and the patient's chief complaint.		
	29.02	Record the patient's medical and ocular history.		
	29.03	Record the family's medical and ocular history using proper medical abbreviations.		
	29.04	Identify preexisting conditions and medications affecting the eye.		SC.912.L.14.6 SC.912.L.14.39 SC.912.L.14.50 SC.912.L.14.52
	29.05	Elicit information with respect to current pertinence for examination.		
30.0	Prepare patients for and assist in testing for eye disorders--The students will be able to:			
	30.01	Accurately take and record patient blood pressure, pulse, height and weight.	MAFS.912.N-Q.1.3	SC.912.N.1.1
	30.02	Accurately screen and record patient visual acuity.	MAFS.912.N-Q.1.3	SC.912.N.1.1
	30.03	Accurately evaluate and record.		SC.912.N.1.1
		30.3.01 Dominant eye and hand		SC.912.N.1.1
		30.3.02 Cover test for muscular imbalance		SC.912.N.1.1
		30.3.03 Saccadic for erratic eye movements		SC.912.N.1.1
		30.3.04 Near point of convergence		SC.912.N.1.1
		30.3.05 Pursuits, rotations and versions		SC.912.N.1.1
	30.04	Demonstrate knowledge of selected instruments used in determining specific eye disorders.		
31.0	Perform medical administrative office tasks--The students will be able to:			
	31.01	Schedule and confirm appointments.		
	31.02	Process all types of incoming and outgoing correspondence.	LAFS.1112.SL.2.6 LAFS.1112.L.1.1 LAFS.1112.L.1.2	
	31.03	Organize office procedures from a management perspective.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
31.3.01	Verification of insurance benefits		
31.3.02	Medical records management.		
31.3.03	Insurance claims procedures		
31.04	Perform filing using a variety of methods.		
31.05	Implement appropriate joint commission patient safety goals.		
31.06	Manage frame boards.		
32.0	Recognize patient needs in relation to lens characteristics--The students will be able to:		
32.01	Interpret the various symbols and abbreviations in a written eyeglass and contact lens prescription.		SC.912.N.1.1
32.02	Distinguish lens criteria for myopic, hyperopic, astigmatic and presbyopic correction.	LAFS.1112.L.3.6	SC.912.P.10.22
32.03	Identify the different designs of multifocal lenses to fit the patient's needs.		SC.912.P.10.22
32.04	Calculate focal lengths from dipotric values.		SC.912.P.10.22
32.05	Measure vertex distance and compensate for contact lens use.	MAFS.912.N-Q.1.3	
32.06	Accurately measure a patient's needs with the use of a phoropter.		SC.912.N.1.1
32.07	Define prism imbalance, vertical imbalance and full imbalance.	LAFS.1112.L.3.6	SC.912.P.10.18
32.08	Identify the effects of optical prism on lenses.	LAFS.1112.SL.1.1	SC.912.P.10.18 SC.912.P.10.22
32.09	Describe the effects of types of tint on the eye.	LAFS.1112.SL.1.1	SC.912.P.10.18
32.010	Estimate the best transmission value related to light.		SC.912.P.10.18
33.0	Demonstrate knowledge of frame selection techniques used in a dispensing office setting--The students will be able to:		
33.01	Distinguish between square, round, rectangular, oblong and oval features.	LAFS.1112.RI.3.9	
33.02	Compare features with large, long and small nasal attributes.	LAFS.1112.RI.3.9	
33.03	Contrast hair and skin tone.	LAFS.1112.RI.3.9	
33.04	Select a frame such that the horizontal and vertical fit the patient's needs.		

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
33.05 Select a frame such that the material and color fit the patient's needs.		
33.06 Select a frame considering lens thickness and material.		
33.07 Select a frame considering temple length.		
33.08 Identify and record frame measurements and markings.		SC.912.N.1.1

Florida Department of Education
Student Performance Standards

Course Title: **Vision Care Assisting 4**
Course Number: **8417232**
Course Credit: **1**

Course Description:

This course is the second of two courses that prepare students to be Vision Care Assistants. Content includes, but is not limited to, creation and completion of eyewear, frame selection techniques, frame adjustment and alignment, patient needs in relation to eyewear, compiling a patient case history as well as assisting in eye disorder testing.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
34.0	Demonstrate knowledge of frame adjustment and alignment--The students will be able to:		
34.01	Identify frame parts and materials.		
34.02	Demonstrate knowledge of frame measurement.	MAFS.912.N-Q.1.3	
34.03	Demonstrate pupillary distance measurement.	MAFS.912.N-Q.1.3	
34.04	Demonstrate frame selection considering customer and frame characteristics.		
34.05	Select correct frame and bridge size.		SC.912.N.1.1
34.06	Verify prescription information.		SC.912.N.1.1
34.07	Perform frame adjustment and alignment.		
34.08	Perform frame repairs.		
34.09	Identify occupational eyewear and special purpose frames.		SC.912.N.1.1
35.0	Demonstrate and perform basic skills relating to lenses--The students will be able to:		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
35.01	Use a manual lensometer.	MAFS.912.N-Q.1.3	
35.02	Find the optical center of a sphere and a spherocylindrical lens in a manual lensometer.		
35.03	Convert a lens according to the principals of toric transposition.	MAFS.912.N-Q.1.3	
35.04	Duplicate a pair of prescription eyeglasses.		
35.05	Calculate lens size.	MAFS.912.N-Q.1.3 MAFS.912.A-SSE.1.1	
35.06	Calculate decentration.	MAFS.912.N-Q.1.3 MAFS.912.A-SSE.1.1	
35.07	Perform special mountings-drill and groove procedures.		
35.08	Demonstrate knowledge of lens tinting.		
35.09	Check finished product against ANSI standards.		
36.0	Edge, tint and inspect a pair of glass or plastic lenses and insert into a frame–The students will be able to:		
36.01	Spot the optical center on any given axis in a pair of single vision, bifocal, or progressive lenses.		
36.02	Decenter and block any given lens avoiding unwanted prism.	MAFS.912.N-Q.1.3	
36.03	Edge any single vision or multifocal lens to mount in a plastic, metal, semi-rimless and rimless frame.		
36.04	Apply a safety bevel.		
36.05	Tint and coat various lenses.		
36.06	Insert lens into a frame.		
36.07	Inspect completed spectacles to meet ANSI Standards.		
37.0	Dispense optical supplies--The students will be able to:		
37.01	Select frames according to prescription suitability, color, style and size.		
37.02	Fill out Rx card completely and correctly.		
37.03	Take proper patient measurements.	MAFS.912.N-Q.1.3	SC.912.N.1.1

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
37.04 Dispense eyewear.		
37.05 Adjust frames to patient's face using standard alignment.		
37.06 Manage frame-boards.		
37.07 Dispense contact lenses.		
37.08 Describe types and care systems for contact lenses.	LAFS.1112.SL.2.6	
37.09 Demonstrate insertion and removal techniques of contact lenses.		
37.010 Use keratometer.	MAFS.912.N-Q.1.3	
37.011 Demonstrate knowledge of frame repair.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Health Unit Coordinator**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8417280
CIP Number	0351070301
Grade Level	9-12, 30, 31
Standard Length	4 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 43-6013 Medical Secretaries

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as health unit clerks or health unit coordinators SOC 43-6013 (Medical Secretaries). Transcription of physicians' orders is an integral part of this course.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues, simulated practice with standard equipment and supplies used in a health care facility by the health unit coordinator. Clinical learning experiences are an integral part of this program.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of four courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8417281	Health Unit Coordinator 1	REG NURSE 7 G MED RECTEC 7G TEC MED !7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	1 credit	43-6013	2	VO
	8417282	Health Unit Coordinator 2		1 credit	43-6013	2	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

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8417281	22/87 25%	26/80 33%	6/83 7%	25/69 36%	5/67 7%	23/70 33%	22/69 32%	7/82 9%	21/66 32%	7/74 9%	24/72 33%
8417282	19/87 24%	19/80 24%	0/83 0%	19/69 28%	0/67 0%	19/70 27%	19/69 28%	0/82 0%	14/66 21%	0/74 0%	19/72 26%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8417281	11/67 16%	15/75 20%	8/54 15%	7/46 15%	7/45 16%	7/45 16%	7/45 16%
8417282	8/67 12%	14/75 19%	8/54 15%	5/46 11%	5/45 11%	5/45 11%	5/45 11%

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Florida Standards for Technical Subjects

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Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

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English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

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Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-39 encompass Health Unit Coordinator:

28.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas.
29.0 Describe the importance of professional ethics and legal responsibilities for the Health Unit Coordinator.
30.0 Interpret and apply medical terminology specific to health unit clerks.
31.0 Organize and maintain efficient work practices.
32.0 Perform clerical duties.

33.0 Perform patient admission, transfer and discharge procedures.
34.0 Prepare discharge/transfer chart for medical records/new unit.
35.0 Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
36.0 Read, interpret, process, coordinate and transcribe physicians' orders.
37.0 Demonstrate an understanding of the Health Unit Coordinators role in the Nutritional Care Department.
38.0 Demonstrate an understanding of the Health Unit Coordinators role in processing diagnostic orders.
39.0 Explain the importance of employability skills and entrepreneurship skills for the Health Unit Coordinator.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Health Unit Coordinator 1 of 2**
Course Number: **8417281**
Course Credit: **1**

Course Description:

This course prepares students to be employed as Health Unit Coordinators/Health Unit Clerks. Content includes, but is not limited to, medical terminology, organization and efficiency in the workplace, computer operations, as well as aiding in Physicians' orders.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas. The student will be able to:		SC.912.N.1.1 SC.912.N.1.6
28.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques when using the telephone and answering patient call lights.		
28.02	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relationships.		
28.03	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.		
28.04	Apply active listening skills to obtain and clarify information.		
28.05	Exhibit public relations skills that aid in achieving customer satisfaction including face to face interactions.		
28.06	Explain why implementation of the electronic medical record is requiring advanced communication skills for the health unit coordinator (HUC).		
28.07	Give instances that exemplify human needs, classify each according to Maslow's hierarchy of human needs, and give appropriate responses to meet the listed needs.		
28.08	Define and explain the importance of culturally sensitive care in the health care setting.		
28.09	List five guidelines to follow that could improve intercultural communication.		

29.0	Describe the importance of professional ethics and legal responsibilities for the Health Unit Coordinator. –The student will be able to:		
	29.01 List seven patient rights as outlined in HIPAA.		
	29.02 Identify seven patient identifiers (individually identifiable health information [IIHI]).		
	29.03 Explain two purposes of the Health Information Technology for Economic and Clinical Health (HITECH) Act.		
	29.04 Explain the responsibilities the health unit coordinator (HUC) has for HIPAA compliance.		
	29.05 Evaluate alternative responses to workplace situations based on personal, professional, ethical, legal responsibilities, and employer policies.		
30.0	Interpret and apply medical terminology specific to health unit clerks. – The student will be able to:		
	30.01 Identify components of medical terms.	LAFS.910.L.3.6 LAFS.910.L.2.3 LAFS.1112.L.3.6 LAFS.1112.L.2.3	
	30.02 Spell, pronounce and define medical terms, as related to Health Unit Coordinator.	LAFS.910.L.3.4c,d LAFS.1112.L.3.4c,d	
	30.03 Relate medical terminology to the body systems.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
	30.04 Identify and define standard abbreviations and medical symbols.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
	30.05 Identify apothecary and metric systems.	MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
31.0	Organize and maintain efficient work practices. --The student will be able to:		
	31.01 Arrange daily activities by priority.		
	31.02 Prepare and post unit information lists.	LAFS.910.W.4.10 LAFS.1112.W.4.10	
	31.03 Maintain a supply of assembled medical/surgical admission packets.		
	31.04 Distribute forms and articles from in-basket.		
	31.05 Identify, store and maintain unit equipment/supplies in a neat and orderly manner.		
	31.06 Sanitize nursing station equipment.		

	31.07 Maintain par levels of supplies as required by the nursing unit		
	31.08 Greet all visitors to the nursing unit and offer assistance as necessary.		
32.0	Perform clerical duties. – The student will be able to:		SC.912.N.1.3 SC.912.N.1.4 SC.912.N.1.6 SC.912.N.1.7
	32.01 Demonstrate knowledge of common software applications relevant to the role of the health unit coordinator.	LAFS.910.RI.2.4 LAFS.910.L.1.2 LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.1112.RI.2.4 LAFS.1112.L.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8	
	32.02 Prepare, label and add forms to chart.		
	32.03 Record admission data on unit records.	LAFS.910.L.1.2 LAFS.1112.L.1.2 MAFS.912.N-Q.1.1	
	32.04 Obtain previous admission records/X-rays.		
	32.05 Post all reports on charts.		
	32.06 File and retrieve assorted forms.		
	32.07 Maintain patient tracking for patients leaving the unit (electronic or paper log).		
33.0	Perform patient admission, transfer and discharge procedures.		
	33.01 List four types of admissions and three types of patients.		
	33.02 List the common components of a set of admission orders and common health unit coordinator (HUC) tasks regarding the patient's admission when paper charts are used.		
	33.03 Describe how a surgical patient's admission orders differ from a medical patient's admission orders and discuss three options for the way in which patient surgeries are performed.		
	33.04 List the components that may be included in a set of pre/postoperative orders.		
	33.05 Explain why it is important for the HUC to monitor the patient's electronic medical record (EMR) consistently.		

	33.06 Explain the purpose and the benefits of the electronic patient status tracking board for the patient's family and/or friends.		
	33.07 Explain what the HUC's responsibility would be regarding all medical records, including patient signed consent forms, handwritten progress notes, and reports faxed or sent from other facilities or brought in by a patient when the EMR with computer physician order entry (CPOE) is implemented.		
34.0	Prepare discharge/transfer chart for medical records/new unit.		
	34.01 List the different types of discharges and explain the importance of communicating pending discharge information and bed availability to the admitting department or bed placement in a timely manner.		
	34.02 List the tasks that may be required to complete a routine discharge.		
	34.03 List the additional tasks that may be required when a patient is discharged to another facility, discharged home with assistance, or when a patient dies (postmortem).		
	34.04 Describe the tasks necessary to prepare the discharged patient's medical record for the health information management services (HIMS) department when paper charts are used.		
	34.05 List the tasks that are performed when a patient is transferred from one unit to another.		
	34.06 List the tasks performed by the HUC when a patient is transferred from one room to another room on the same unit.		
	34.07 Discuss the importance of reading the entire set of discharge or transfer orders prior to the patient being discharged or transferred.		

Florida Department of Education
Student Performance Standards

Course Title: **Health Unit Coordinator 2 of 2**
Course Number: **8417282**
Course Credit: **1**

Course Description:

This course prepares students to be employed as Health Unit Coordinators/Health Unit Clerks. Content includes, but is not limited to, medical terminology, organization and efficiency in the workplace, computer operations, as well as aiding in Physicians' orders.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
35.0 Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance. – The student will be able to:		
35.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.		
35.02 Participate in emergency or disaster plan, CPR and first aid.		
35.03 Identify the location of emergency equipment on the nursing unit.		
35.04 Recognize and follow all appropriate emergent code protocols.		
35.05 Comply with regulatory agency guidelines.		
36.0 Read, interpret, process, coordinate and transcribe physicians' orders. – The student will be able to:		
36.01 Identify all types of physician's orders.	LAFS.910.RI.2.4 LAFS.1112.RI.2.4	
36.02 Prioritize orders for transcription.	LAFS.910.W.2.6 LAFS.910.L.3.6 LAFS.1112.W.2. LAFS.1112.L.3.6	
36.03 Prepare and route requisitions manually or via computer.	LAFS.910.RI.2.4	

		LAFS.910.L.1.2 LAFS.910.L.3.6 LAFS.1112.RI.2.4 LAFS.1112.L.1.2; LAFS.1112.L.3.6	
	36.04 Arrange for ordered consultations.	LAFS.910.SL.2.6 LAFS.1112.SL.2.6	
	36.05 Schedule patients' treatments or therapy with other hospital departments.	LAFS.910.RI.2.4 LAFS.910.L.1.2 LAFS.910.L.2.6 LAFS.910.SL.2.6 LAFS.1112.RI.2.4 LAFS.1112.L.1.2 LAFS.1112.L.2.6 LAFS.1112.SL.2.6	
	36.06 List the points of information that should be communicated to the consulting physician's office when a consultation order is transcribed.		
37.0	Demonstrate an understanding of the Health Unit Coordinators role in the Nutritional Care Department. – The student will be able to:		
	37.01 Explain the importance of communicating diet changes and patient food allergies to the nutritional care department.		
	37.02 List the groups of diets including nutritional supplements that may be ordered for the hospitalized patient.		
	37.03 List consistency changes that can be made to a standard diet and explain what is included in each.		
	37.04 List diet options that may be selected for the patient who has started on clear liquids and has an order for diet as tolerated and explain how the selection would be made.		
	37.05 Identify therapeutic diets that the patient's doctor may order.		
	37.06 Identify diets that may be requested by patients and assist them in ordering appropriate meals.		
	37.07 List the items an HUC may need to order when transcribing an order for tube feeding.		
	37.08 Explain the purpose of the doctors' orders force fluids, limit fluids, and calorie count and discuss the importance of sending all doctors' orders regarding a patient's diet or modifications to a patient's diet to the nutritional care department.		
	37.09 Discuss the importance of sending total parenteral nutrition (TPN) orders to the pharmacy in a timely manner.		

38.0	Demonstrate an understanding of the Health Unit Coordinators role in processing diagnostic orders. – The student will be able to:		
38.01	List the major divisions of the clinical laboratory and their functions.		
38.02	List six invasive procedures that would require a consent form signed by the patient.		
38.03	Describe the health unit coordinator's responsibilities in ordering laboratory tests and sending specimens to the laboratory when EMR is used and when paper charts are used and describe how routine, stat, daily, and timed studies would be ordered and performed.		
38.04	Explain how the health unit coordinator's responsibilities regarding diagnostic imaging orders differ with the implementation of the electronic medical record and computer physician order entry versus use of the paper chart.		
38.05	List the information regarding the patient that the health unit coordinator must include when ordering procedures to be performed by the diagnostic imaging department.		
38.06	Explain when a patient would be required to sign an informed consent before a diagnostic imaging procedure.		
38.07	Discuss sequencing or scheduling of multiple diagnostic imaging procedures ordered for the same patient.		
38.08	Demonstrate an understanding of other diagnostic studies.		
39.0	Explain the importance of employability skills and entrepreneurship skills for the Health Unit Coordinator. – The student will be able to:		
39.01	Discuss benefits and responsibilities of the HUC for membership in a professional organization such as the National Association of Health Unit Coordinators.		
39.02	Determine how to apply for membership in a professional organization.		
39.03	List five benefits of becoming a certified HUC.		
39.04	Complete application for certification.		
39.05	List three positions in which the HUC may be cross-trained.		
39.06	Conduct a job search for HUC positions and complete a job application form correctly.		
39.07	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.		
39.08	Observe professional e-mail practices and etiquette.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

It is recommended that completers of this program take the National Association of Health Unit Coordinators Certification examination which is offered annually.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Pharmacy Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8418200
CIP Number	0317050705
Grade Level	9-12, 30, 31
Standard Length	7 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals, Skills USA
SOC Codes (all applicable)	29-2052 Pharmacy Technicians 31-9095 Pharmacy Aides

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as pharmacy technicians SOC 29-2052

The content includes but is not limited to metric system, medical terminology, medicinal drugs, pharmaceutical compounding, USP 795 standards, sterile techniques, USP 797 standards, maintenance of inventory, IV preparation, receiving and handling of hazardous materials, preparing purchase orders, receiving and checking supplies purchased, printing labels, typing prescription labels, delivering medications, pricing prescription drug orders and supplies, prepackaging unit dose packages, patient record systems, control records, data processing automation in pharmacy, computer application, employability skills, leadership and human relations skills, health and safety, including CPR. The Health Science Core must be taken by all students (secondary, postsecondary adult and postsecondary vocational) planning to complete any Health Science program. Once successfully completed, the core does not need to be repeated at any instructional level.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of seven courses and two occupational completion points.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8418210	Pharmacy Technician 1	PHARMACY 7 G	1 credit	31-9099	3	VO
B	8418220	Pharmacy Technician 2		1 credit	29-2052	3	VO
	8418230	Pharmacy Technician 3		1 credit	29-2052	3	VO
	8418240	Pharmacy Technician 4		1 credit	29-2052	3	VO
	8418250	Pharmacy Technician 5		1 credit	29-2052	3	VO
	8418260	Pharmacy Technician 6		1 credit	29-2052	3	VO
	8418270	Pharmacy Technician 7		1 credit	29-2052	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8418210	17/87 20%	21/80 26%	33/83 40%	17/69 25%	32/67 48%	18/70 26%	15/69 22%	30/82 37%	22/66 33%	36/74 49%	16/72 22%

8418220	3/87 3%	6/80 8%	26/83 31%	6/69 9%	24/67 36%	8/70 11%	2/69 3%	25/82 30%	8/66 12%	29/74 39%	4/72 6%
8418230	25/87 29%	27/80 34%	3/83 4%	28/69 41%	5/67 7%	25/70 36%	25/69 36%	3/82 4%	22/66 33%	5/74 7%	27/72 38%
8418240	26/87 30%	20/80 25%	4/83 5%	26/69 38%	#	20/70 29%	21/69 30%	4/82 5%	14/66 21%	7/74 9%	20/72 28%
8418250	8/87 9%	7/80 9%	6/83 7%	5/69 7%	4/67 6%	7/70 10%	1/69 1%	4/82 5%	7/66 11%	9/74 12%	7/72 10%
8418260	11/87 13%	4/80 5%	10/83 12%	6/69 9%	3/67 4%	7/70 10%	7/69 10%	5/82 6%	5/66 8%	8/74 11%	5/72 7%

*** Alignment pending review* *# Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8418210	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 29%	25/45 56%	25/45 56%
8418220	16/67 24%	8/75 11%	16/54 30%	8/46 17%	8/45 18%	#	#
8418230	12/67 18%	17/75 23%	8/54 15%	#	#	9/45 20%	9/45 20%
8418240	8/67 12%	14/75 19%	8/54 15%	#	#	2/45 4%	2/45 4%
8418250	#	#	#	#	#	2/45 4%	2/45 4%
8418260	2/67 3%	2/75 3%	#	#	#	2/45 4%	2/45 4%

*** Alignment pending review* *# Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Regulated Programs

This program must be approved by the Board of Pharmacy. Program completers who wish to work as Pharmacy Technicians in the State of Florida must register with the Board of Pharmacy (465.014 F.S.).

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice human relation skills.
13.0 Identify pharmaceutical abbreviations and terminology as related to community pharmacy practice.
14.0 Identify medical and legal considerations
15.0 Perform clerical duties as related to Pharmacy Practice.
16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology.
17.0 Demonstrate knowledge of inventory control.
18.0 Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice.
19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology.
20.0 Prepare and deliver medications.
21.0 Prepackage unit dose medications.
22.0 Prepare sterile products.

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 1**
Course Number: **8418210**
Course Credit: **1**

Course Description:

Health Science Core: The Health Science Core is a core of basic knowledge necessary for any health occupations career. This health core is encompassed inside of this course. Students who complete this course do not have to repeat the Health Science Core at any level. Students must have completed or be concurrently enrolled in the course to move onto OCP B.

Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
01.0 Demonstrate knowledge of the health care delivery system and health occupations. – The student will be able to:		SC.912.L.16.10
01.01 Identify the basic components of the health care delivery system including public, private, government and non-profit.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.02 Identify common methods of payment for healthcare services.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.03 Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.	LAFS.910.W.1.2 LAFS.910.SL.1.2 LAFS.910.SL.2.4 LAFS.910.SL.2.6 LAFS.1112.SL.1.2	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.3	
01.04 Describe the composition and functions of a healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.W.1.2 LAFS.1112.W.3.7	
01.05 Identify the general roles and responsibilities of the individual members of the healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.3.7 LAFS.1112.W.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.1	
01.06 Identify the roles and responsibilities of the consumer within the healthcare delivery system.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.07 Identify characteristics of effective teams.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.08 Recognize methods for building positive team relationships.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.RI.1.1	
01.09 Analyze attributes and attitudes of an effective leader.	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.10 Recognize factors and situations that may lead to conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112. SL.1.3 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.11 Demonstrate effective techniques for managing team conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112. SL.1.3 LAFS.1112.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.12 Describe factors that influence the current delivery system of healthcare.	LAFS.910.RI.2.4 LAFS.910.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.2.4 LAFS.1112.SL.2.4	
01.13 Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.	LAFS.910.W.2.5 LAFS.910.W.3.8 LAFS.1112.W.2.5 LAFS.1112.W.3.8 LAFS.1112.RI.1.1 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4	
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively. – The student will be able to:		SC.912.N.1.1
02.01 Develop basic speaking and active listening skills.	LAFS.910.SL.1.1 LAFS.910.SL2.4 LAFS.910.SL.2.6 LAFS.1112.SL.1.1 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.L.1.1	
02.02 Develop basic observational skills and related documentation strategies in written and oral form.	LAFS.910.SL.2.4 LAFS.910.RI.3.7 LAFS.910.W.3.9	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.910.W.2.4 LAFS.910.SL2.4 LAFS.910.SL.2.6 LAFS.1112.SL1.1 LAFS.1112.SL.2.4 LAFS.1112.RI.3.7 LAFS.1112.W.3.9 LAFS.1112.W.2.4 LAFS.1112.L.1.1	
02.03 Identify characteristics of successful and unsuccessful communication including communication styles and barriers.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112. SL.1.3 LAFS.1112.L.1.1	
02.04 Respond to verbal and non-verbal cues.	LAFS.910.SL.1.1 LAFS.1112.SL1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
02.05 Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writing.	LAFS.910.L.1.1 LAFS.910.L.1.2 LAFS.910.W.2.4 LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.W.2.4 LAFS.1112.SL.1.1	
02.06 Use appropriate medical terminology and abbreviations.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
02.07 Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.	LAFS.1112.SL1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
02.08 Recognize the importance of patient/client educations regarding healthcare.	LAFS.1112.L.1.1 LAFS.1112.SL1.1 LAFS.1112.SL.1.3	
02.09 Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.	LAFS.910.SL.2.6 LAFS.1112.SL.2.6 LAFS.1112.W.2.5	
02.10 Analyze elements of communication using a sender-receiver model.	LAFS.910.SL.1.1d	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.1.1d LAFS.1112.W.2.5 LAFS.1112.RI.1.1	
02.11	Distinguish between and report subjective and objective information.	LAFS.1112.RI.1.1 LAFS.1112.SL.1.1d LAFS.1112.SL.2.4	
02.12	Report relevant information in order of occurrence.	LAFS.910.W.1.2d LAFS.910.SL.2.4 LAFS.1112.W.1.2d LAFS.1112.SL.2.4 LAFS.1112.RI.1.3	
03.0	Demonstrate legal and ethical responsibilities. – The student will be able to:		SC.912.L.16.10 SC.912.N.1.1
03.01	Discuss the legal framework of the healthcare occupations including scope of practice legislation.	LAFS.910.SL.1.1a,b LAFS.910.SL.1.2 LAFS.1112.SL.1.1a,b,d LAFS.1112.SL.1.2 LAFS.1112.W.3.9b	
03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.	LAFS.910.SL.1.1a,b LAFS.910.SL.1.2 LAFS.1112.SL.1.1a,b LAFS.1112.SL.1.2 LAFS.1112.W.3.9b	
03.03	Demonstrate procedures for accurate documentation and record keeping.	LAFS.1112.W.2.6	
03.04	Interpret healthcare facility policy and procedures.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2 LAFS.1112.RI.3.8	
03.05	Explain the “Patient’s Bill of Rights”.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.RI.3.8 LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
03.06	Identify standards of the Health insurance Portability and Accountability Act (HIPAA).	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
03.07	Describe advance directives.	LAFS.910.W.1.2d LAFS.1112.W.1.2d	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.11112.RI.1.1 LAFS.1112.L.3.6	
03.08 Describe informed consent.	LAFS.910.W.1.2d LAFS.1112.W.1.2d LAFS.1112.RI.1.1 LAFS.1112.L.3.6	
03.09 Explain the laws governing harassment, labor and employment.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS1112.SL.1.2	
03.10 Differentiate between legal and ethical issues in healthcare.	LAFS.910.RI.3.8 LAFS.1112.SL.1.2 LAFS.1112.RI.3.8	
03.11 Describe a code of ethics consistent with the healthcare occupation.	LAFS.910.W.1.2d LAFS.1112.RI.1.2 LAFS.1112.W.1.2d	
03.12 Identify and compare personal, professional, and organizational ethics.	LAFS.1112.RI.1.3	
03.13 Recognize the limits of authority and responsibility of health care workers including legislated scope of practice	LAFS.1112.RI.1.1	
03.14 Recognize and report illegal and/or unethical practices of healthcare workers.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
03.15 Recognize and report abuse including domestic violence and neglect.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
03.16 Distinguish among the five schedules of controlled substances.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
04.0 Demonstrate an understanding of and apply wellness and disease concepts. – The student will be able to:		SC.912.L.14.46 SC.912.L.14.52 SC.912.L.18.3 SC.912.L.18.4 SC.912.N.2.2 SC.912.N.2.3 SC.912.N.4.2
04.01 Describe strategies for prevention of diseases including health screenings and examinations.	LAFS.910.W.1.3 LAFS.910.SL.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.910.SL.2.5 LAFS.910.SL.2.6 LAFS.1112.W.1.3 LAFS.1112.SL.2.4 LAFS.1112.SL.2.5 LAFS1112.RI.1.1	
04.02	Identify personal health practices and environmental factors which affect optimal function of each of the major body systems.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
04.03	Identify psychological reactions to illness including defense mechanisms.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
04.04	Identify complementary and alternative health practices.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
04.05	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.	LAFS.1112.SL.1.1c	
04.06	Explain the basic concepts of positive self-image, wellness and stress.	LAFS.1112.SL.1.1c	
04.07	Develop a wellness and stress control plan that can be used in personal and professional life.	LAFS.1112.W.1.2 LAFS.1112.W.2.4	
04.08	Explore and utilize the U.S. Department of Agriculture's MyPlate food guide.	LAFS.1112.RI.3.8	
04.09	Recognize the steps in the grief process.		
05.0	Recognize and practice safety and security procedures. – The student will be able to:		SC.912.N.1.1 SC.912.N.1.6
05.01	Recognize safe and unsafe working conditions and report safety hazards.	LAFS.1112.W.4.10	
05.02	Demonstrate the safe use of medical equipment.	LAFS.1112.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	05.03 Explain and apply the theory of root- cause analysis	LAFS.1112.SL.2.6	
	05.04 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.	LAFS.1112.RI.1.1	
	05.05 Identify and practice security procedures for medical supplies and equipment.	LAFS.1112.RI.3.8	
	05.06 Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).	LAFS.1112.SL.2.4	
	05.07 Recognize Materials Data Safety Sheets (MSDS) and comply with safety signs, symbols and labels.	LAFS.1112.RI.3.7	
	05.08 Demonstrate proper body mechanics and ergonomics.	LAFS.1112.SL.2.4	
	05.09 Demonstrate the procedure for properly identifying patients.	LAFS.1112.SL.2.4	
	05.10 Demonstrate procedures for the safe transport and transfer of patients.	LAFS.1112.SL.2.4	
	05.11 Describe fire, safety, disaster and evacuations procedures.	LAFS.1112.L.1.1 LAFS.1112.RI.1.1	
	05.12 Discuss The Joint Commissions patient safety goals	LAFS.1112.RI.3.7	
06.0	Recognize and respond to emergency situations. – The student will be able to:		SC.912.N.1.1
	06.01 Monitor and record vital signs.	MAFS.912.N-Q.1.1 MAFS.912-N-Q.1.2 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.1 MAFS.912.S-IC.2.6	
	06.02 Describe legal parameters relating to the administration of emergency care.	LAFS.1112.L.1.1 LAFS.1112.RI.3.8	
	06.03 Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.	LAFS.1112.RI.1.1 LAFS.1112.RI.3.7 LAFS.1112.L.3.6 LAFS.1112.SL.1.2	
	06.04 Recognize adverse drug related emergencies and take appropriate first aid action.		
07.0	Recognize and practice infection control procedures. – The student will be able to:		SC.912.L.14.6 SC.912.L.14.52 SC.912.L.17.6 SC.912.L.17.14 SC.912.L.17.16

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
07.01	Define principles of infection control including standard and transmission based precautions.	LAFS.1112.L.3.4a, c	
07.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.	LAFS.1112L.3.4d LAFS.1112.SL.2.4	
07.03	Demonstrate knowledge of surgical asepsis.	LAFS.1112l.3.4d LAFS.1112.SL.2.4	
07.04	Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.	LAFS.1112.RI.3.8 LAFS.1112.SL.2.4	
08.0	Demonstrate an understanding of information technology applications in healthcare. – The student will be able to:		SC.912.N.1.1
08.01	Describe technology applications in healthcare.	LAFS.1112.SL.1.2	
08.02	Define terms and demonstrate basic computer skills.	LAFS.1112.L.3.6	
08.03	Recognize technology applications in healthcare.		
08.04	Interpret information from electronic medical documents.	LAFS.1112.SL.2.5 MAFS.912.S-IC.2.6	
08.05	Identify methods of communication to access and distribute data such as fax, e-mail and internet.		
09.0	Demonstrate employability skills. – The student will be able to:		
09.01	Identify personal traits or attitudes desirable in a member of the healthcare team.		
09.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).	LAFS.1112.L.2.3 LAFS.1112.SL.2.6	
09.03	Identify documents that may be required when applying for a job.		
09.04	Write an appropriate resume.	LAFS.1112.W.2.5 LAFS.1112.W.2.6 LAFS.1112.W.3.8	
09.05	Conduct a job search.	LAFS.1112.W.3.8	
09.06	Complete a job application form correctly.	LAFS.1112.W.2.5 LAFS.1112.W.2.6	
09.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.	LAFS.1112.W.3.9b	
09.08	Recognize levels of education, credentialing requirements, employment	LAFS.1112.W.3.9b	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	opportunities, workplace environments and career growth potential.		
09.09	Identify acceptable work habits.		
09.10	Recognize appropriate affective/professional behavior.		
09.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).	LAFS.1112.W.3.8	
10.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS. – The student will be able to:		SC.912.L.14.6 SC.912.L.14.52
10.01	Recognize emerging diseases and disorders	MAFS.912.S-IC.1.1 MAFS.912.S-ID.2.5 MAFS.912.S-ID.3.9	
10.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.	LAFS.1112.RI.1.2 LAFS.1112.RI.3.7	
10.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.	LAFS.1112.W.3.7	
10.04	Identify "at risk" behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.	LAFS.1112.RI.1.1 MAFS.912.S-IC.1.1 MAFS.912.S-IC.2.6	
10.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.	LAFS.1112.RI.3.8	
10.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.	LAFS.1112.RI.3.8	
11.0	Apply basic math and science skills. – The student will be able to:		SC.912.N.1.1
11.01	Draw, read, and report on graphs, charts and tables.	MAFS.912.S-ID.1.1 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
11.02	Measure time, temperature, distance, capacity, and mass/weight.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
11.03	Make, use and convert using both traditional and metric units.	MAFS.912.N-Q.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
11.04	Make estimations and approximations and judge the reasonableness of the result.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
11.05	Convert from regular to 24 hour time.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
11.06	Demonstrate ability to evaluate and draw conclusions.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3 LAFS.1112.W.3.7	
11.07	Organize and communicate the results obtained by observation and experimentation.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3 LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
11.08	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
11.09	Calculate ratios.		
12.0	Practice human relation skills--The student will be able to:		SC.912.N.2.2 SC.912.N.2.4 SC.912.N.2. 5 SC.912.N.3.1 SC.912.N.3.2 SC.912.N.3.5
12.01	Explore the meaning and duties of a pharmacy technician.		
12.02	Explore the organizational flow of responsibilities within a pharmacy setting.		
12.03	Understand the importance of developing and maintaining a professional rapport with co-workers.		
12.04	Identify pharmacy organizations and their role in the profession.		
12.05	Demonstrate an understanding of Continuing Education (CE) requirements for pharmacy technicians and how to obtain them.		
12.06	Identify the current trends and perspectives in the pharmacy practice.		
12.07	Identify the means by which the application of team building can facilitate		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	change within the pharmacy working environment.		
13.0	Identify pharmaceutical abbreviations and terminology as related to community pharmacy practice--The student will be able to:		
13.01	Use pharmaceutical medical terminology.		
13.02	Define the major symbols and abbreviations used on prescriptions and state the meaning.		

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 2**
Course Number: **8418220**
Course Credit: **1**

Course Description: This course builds on the knowledge and skill obtained in Pharmacy Technician 1, while also exploring the medical and legal considerations in pharmaceutical careers. Students will learn integral administrative procedures required of pharmacy technicians while applying knowledge of basic pharmaceutical chemistry and drug classification.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
14.0	Identify medical and legal considerations--The student will be able to:		SC.912.L.16.10 SC.912.L.17.13 SC.912.L.17.14 SC.912.L.17.16 SC.912.L.17.20 SC.912.N.2.4 SC.912.N.4.1 SC.912.N.4.2
14.01	Articulate the significance and scope of current national and Florida law and administrative rules as they relate to the practice of the pharmacy technician.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.02	Convey an understanding of medical legal concepts as they relate to the practice of the pharmacy technician.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.03	Explain the need for accurate pharmacy documentation and recordkeeping.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.04	Justify the importance of HIPAA in pharmacy practice.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.05	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.06	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.07	Compare and contrast between controlled substances and their applicable regulations.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	

14.08	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.09	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.	LAFS.910.RI.3.8, LAFS.910.RI.3.9	
14.10	Understand and explain the legal requirements for final check by the pharmacist		
14.11	Classify activities performed by pharmacy professionals as those that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists. For each activity, explain the rationale for the classification.		
15.0	Perform clerical duties as related to Pharmacy Practice.--The student will be able to:		SC.912.L.17.13 SC.912.L.17.14 SC.912.N.2.4
15.01	Design and evaluate pharmacy dispensing processes step-by-step in retail practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors.		
15.02	Demonstrate computer applications in processing pharmacy prescription data.	LAFS.910.SL.1.2	
15.03	Identify applications of E-Prescribing and facsimile.		
15.04	Utilize and apply interactive communication skills while gathering of accurate information from patients and from other healthcare professionals		
15.05	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements		
15.06	Create, complete and maintain patient profiles.		
15.07	Demonstrate telephone communication skills and routine inquiries.	LAFS.910.SL.1.1C	
15.08	Convey an understanding of appropriate practice standards pertaining to patient counseling.	LAFS.910.SL.1.1C	
15.09	Demonstrate the knowledge of systems used in maintaining pharmacy records.	LAFS.910.W.2.6	
15.10	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prescription processing.		
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology--The student will be able to:		SC.912.L.14.7 SC.912.L.14.49 SC.912.L.14.52 SC.912.L.14.53 SC.912.L.17.13 SC.912.L.17.14 SC.912.N.1.3 SC.912.N.1.7

		SC.912.N.2.4 SC.912.N.2.5 SC.912.P.8.7 SC.912.P.8.13 SC.912.P.12.12
16.01 Define the major classifications of pharmaceuticals.	LAFS.910.L.3.6	
16.02 Categorize at least one official compendia of standards for quality and purity of drugs and authoritative information on dosage, administration and therapeutic equivalents.	LAFS.910.L.3.4C LAFS.910.L.3.6	
16.03 Analyze pharmacy reference manuals and web sites.		
16.04 Apply knowledge of trade names, and generic name equivalents.	LAFS.910.W.3.8	

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 3**
Course Number: **8418230**
Course Credit: **1**

Course Description: This course builds on the knowledge and skills obtained in Pharmacy Technician 1 and 2. This course focuses on the importance of quality control when handling controlled substances and essential compounding techniques.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
17.0	Demonstrate knowledge of inventory control--The student will be able to:		SC.912.L.17.14 SC.912.N.1.1
17.01	Convey an understanding of industry standards in purchasing pharmaceutical supplies.	LAFS.1112.RI.3.7	
17.02	Maintain controlled substance inventory.	LAFS.1112.RI.3.7	
17.03	Display knowledge of prescription pricing systems used in pharmacy.	LAFS.1112.W.2.4 LAFS.1112.W.2.6	
17.04	Maintain stock inventory, communicate shortages and seek alternatives.	LAFS.1112.SL.1.2	
17.05	Prepare electronic purchase orders.	LAFS.1112.SL.2.4	
17.06	Accurately perform the process of purchasing, receiving, storing, distributing and disposing of pharmaceutical supplies.	LAFS.1112.W.37 LAFS.1112.SL.2.6	
17.07	Convey an understanding of industry standards in management of Investigational Drugs.	LAFS.1112.W.3.7 LAFS.1112.SL.2.6	
18.0	Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice--The student will be able to:		SC.912.N.1.1 SC.912.N.2.4 SC.912.N.2.5 SC.912.P.8.9
18.01	Convey an understanding of United States Pharmacopeia (USP) 795 standards.	LAFS.1112.RI.3.7	
18.02	Convert measurements within the apothecary, avoirdupois, household and metric systems.	MAFS.912.N-Q.1.1	

18.03 Perform common pharmaceutical calculations.	MAFS.912.S-ID.1.3 MAFS.912.N-Q.1.1 MAFS.912.A-REI.3.6 MAFS.912.-S-MD.1.3	
18.04 Use common pharmaceutical weighing equipment.		
18.05 Use common pharmaceutical volume measurement equipment.	LAFS.1112.L.3.4C MAFS.912.N-Q.1.3	
18.06 Explain the technique of preparing common pharmaceutical compounds.	LAFS.1112.W.1.3A,B,C,E MAFS.912.A-REI.3.6	
18.07 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of non-sterile products.		

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 4**
Course Number: **8418240**
Course Credit: **1**

Course Description: This course builds on the knowledge and skills obtained in Pharmacy Technician 1, 2 and 3. This course focuses on pharmaceutical chemistry and its relationship with human physiology. Students will explore vital theories to better ensure patient safety and satisfaction.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology--The student will be able to:		SC.912.L.14.26 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.36 SC.912.L.14.39 SC.912.L.14.42 SC.912.L.14.46 SC.912.L.14.49 SC.912.L.15.15 SC.912.L.17.20 SC.912.P.8.2 SC.912.P.8.4 SC.912.P.8.5 SC.912.P.8.7 SC.912.P.8.8 SC.912.P.10.5 SC.912.P.12.12
19.01 Predict physical and chemical incompatibilities utilizing chemistry properties.		
19.02 Describe electrolyte balances.	LAFS.1112.W.1.2A-F	

19.03	Relate the general sources, classes, indications, actions, routes and side effects of drugs.	LAFS.1112.W.2.4 LAFS.1112.RI.1.3	
19.04	Demonstrate an understanding of common adult doses of medications and respective contraindications.	LAFS.1112.RI.3.7 LAFS.1112.W.2.4 LAFS.1112.W.1.2B	

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 5**
Course Number: **8418250**
Course Credit: **1**

Course Description: This course builds on the knowledge and skills obtained in Pharmacy Technician 1, 2, 3 and 4.

Clinical (externship) opportunity in the retail setting will enhance student's understanding of community pharmacy practice, association management, and the issues impacting the retail and chain drug industry. This externship is designed to develop both professional and clinical skills to ensure success in the pharmacy field.

Students are expected to participate in a clinical pharmacy experience that provides opportunities for each student to build on acquired knowledge and skills, to practice and develop skills in selected procedures. Such procedures include, but are not limited to, dispensing, compounding, inventory handling and control, drug distribution, processing of third party claims, maintenance of patient profiles and interaction and communication with pharmacy staff.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
20.0 Prepare and deliver medications--The student will be able to:		SC.912.L.14.26 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.36 SC.912.L.14.39 SC.912.L.14.42 SC.912.L.14.46 SC.912.L.14.49 SC.912.L.17.13 SC.912.L.17.14 SC.912.L.17.16 SC.912.L.17.20 SC.912.N.1.1 SC.912.N.1.3

			SC.912.N.1.7 SC.912.N.2.4 SC.912.P.10.15 SC.912.P.12.2 SC.912.P.12.3
	20.01 Read and prepare medication orders correctly.	LAFS.1112.W.2.6 LAFS.1112.W.2.4 MAFS.912.A-REI.3.6	
	20.02 Design and evaluate pharmacy dispensing processes step-by-step in institutional practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors		
	20.03 Check all new orders with medications listed on profiles while noting any discrepancies.	LAFS.1112.W.2.6 LAFS.1112.W.2.4	
	20.04 Utilize special precautions in the preparation of medications for pediatric patients.	LAFS.1112.RI.1.3	
	20.05 Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.		
	20.06 Demonstrate the proper technique of preparing pharmaceutical compounds.	LAFS.1112.RI.3.7	
	20.07 Demonstrate the ability to correctly fill and deliver medication cassettes.	LAFS.1112.RI.3.7	
	20.08 Collect data from medication administration record and drug use and evaluation form.	LAFS.1112.RI.3.7	
	20.09 Demonstrate use of automated medication dispensing equipment.	LAFS.1112.RI.3.7	
21.0	Prepackage unit dose medications--The student will be able to:		SC.912.L.17.17 SC.912.N.1.1 SC.912.N.2.4 SC.912.N.2.5 SC.912.P.8.8 SC.912.P.8.10 SC.912.P.10.15 SC.912.P.12.2 SC.912.P.12.3
	21.01 Locate correct stock container.		
	21.02 Measure, count required individual doses of medication.	MAFS.912.A-REI.3.6	
	21.03 Label with required information utilizing “tall man” lettering.	LAFS.1112.W.2.4 LAFS.1112.RI.1.2	
	21.04 Operate unit dose packaging equipment.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	

21.05	Place individual dose in appropriate containers, prepackage in predetermined quantities.	LAFS.1112.RI.1.2	
21.06	Prepackage unit dose hazardous drugs.	LAFS.1112.RI.1.2	
21.07	Record prepackaged medication data correctly.		
21.08	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prepackaging unit dose medication.	LAFS.1112.L.2.3	

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 6**
Course Number: **8418260**
Course Credit: **1**

Course Description: This course builds on the knowledge and skills obtained in Pharmacy Technician 1, 2, 3, 4 and 5. Students will learn how to properly prepare sterile products for patients by considering common medical errors and applying detailed knowledge of quality control techniques, drug incompatibilities and the storage and disposal of controlled substances.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
22.0 Prepare sterile products --The student will be able to:		SC.912.L.14.6 SC.912.L.14.26 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.33 SC.912.L.14.36 SC.912.L.14.39 SC.912.L.14.42 SC.912.L.14.46 SC.912.L.15.15 SC.912.L.16.7 SC.912.L.16.8 SC.912.L.16.10 SC.912.L.16.14 SC.912.L.17.13 SC.912.L.17.14 SC.912.L.17.15 SC.912.L.18.4 SC.912.L.18.8 SC.912.N.1.1 SC.912.N.2.4 SC.912.N.2.5 SC.912.P.8.7

		SC.912.P.8.9 SC.912.P.10.15 SC.912.P.12.3 SC.912.P.12.12
22.01 Convey an understanding of United States Pharmacopeia (USP) 797 regulations.	LAFS.1112.RI.3.8	
22.02 Compare medication order with label on vial and check expiration date of product.		
22.03 Calculate drug dosage for parenteral use.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3, MAFS.912.A-REI.1.1 MAFS.912.A-REI.3.6	
22.04 Articulate common drug incompatibilities.	LAFS.1112.W.3.7	
22.05 Reconstitute parenteral medications.	MAFS.912.N-Q.1.3 MAFS.912.A-REI.1.1 MAFS.912.A-REI.3.6	
22.06 Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.	LAFS.1112.RI.1.3 MAFS.912.F-IF.2.6	
22.07 Use aseptic technique to withdraw medication from an ampule.	LAFS.1112.RI.1.3	
22.08 Prepare parenteral solutions and discuss current intravenous preparation industry trends.	LAFS.1112.RI.3.7 LAFS.1112.SL.1.2 MAFS.912.N-Q.1.3 MAFS.912.A-REI.1.1 MAFS.912.A-REI.3.6	
22.09 Perform the preparation of total Parenteral Nutrition solutions.	LAFS.1112.RI.3.7 LAFS.1112.SL.1.2 MAFS.912.N-Q.1.3 MAFS.912.A-REI.1.1 MAFS.912.A-REI.3.6	
22.10 Perform the preparation of chemotherapeutic agents using proper safety techniques.	LAFS.1112.RI.3.7 LAFS.1112.SL.1.2 MAFS.912.N-Q.1.3 MAFS.912.A-REI.1.1 MAFS.912.A-REI.3.6	
22.11 Utilize the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.	LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
22.12 Place label on IV solution container and keep records.	LAFS.1112.RI.1.2	

22.13 Perform quality control check.	LAFS.1112.W.4.10	
22.14 Convey an understanding of storage requirements of reconstituted IV solutions.	LAFS.1112.RI.3.7	
22.15 Convey an understanding of the proper disposal of hazardous Drugs.		
22.16 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.		

Florida Department of Education
Student Performance Standards

Course Title: **Pharmacy Technician 7**
Course Number: **8418270**
Course Credit: **1**

Course Description: This course builds on the knowledge and skills obtained in Pharmacy Technician 1, 2, 3, 4, 5 and 6.

Clinical (externship) in the hospital setting will expand the student's knowledge of science and medicine as it relates to the professions associated with the practice of pharmacy in hospitals and family health centers. Students will interact with pharmacists and technicians and patients to provide services in all types of patient care settings including inpatient, outpatient and ambulatory care.

Students are expected to participate in a clinical pharmacy experience that provides opportunities for each student to build on acquired knowledge and skills, to practice and develop skills in selected procedures. Such procedures include, but are not limited to, dispensing, compounding, inventory handling and control, drug distribution, processing of third party claims, maintenance of patient profiles and interaction and communication with pharmacy staff.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical practicum experiences are an integral part of this program.

In addition, due to the clinical experiences students are engaged in through the program and to ensure the safety of both the students and the patients the recommended student to instructor ratio in the classroom is 20:1 and in the lab is 4:1.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

It is recommended that program completers take national pharmacy technician certification exam offered by the Pharmacy Technician Certification Board, 2215 Constitution Ave. NW, Washington, DC 20037-2985, 202-429-7576. This certification is offered year round on a continual basis.

Outcomes 01-16 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Practical Nursing**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8418400
CIP Number	0351390102
Grade Level	9-12, 30, 31
Standard Length	9 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2061 Licensed Practical and Licensed Vocational Nurses 31-1014 Nursing Assistants

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes, but is not limited to, theoretical instruction and clinical experience in medical, surgical, obstetric, pediatric, and geriatric nursing; theoretical instruction and clinical experience in acute, care, long term care and community settings; theoretical instruction and clinical application of vocational role and function; personal, family and community health concepts; nutrition; human growth and development over the life span; body structure and function; interpersonal relationship skills, mental health concepts; pharmacology and administration of medications; legal aspects of practice; and current issues in nursing.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of nine courses and two occupational completion points.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8418410	Practical Nursing Foundations 1A	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 *(Must be a Registered Nurse)	1 credit	31-1014	3	VO
	8418420	Practical Nursing Foundations 1B		1 credit	31-1014	3	VO
B	8418430	Practical Nursing Foundations 2A	REG NURSE 7 G PRAC NURSE @7 *(Must be a Registered Nurse)	1 credit	29-2061	3	VO
	8418440	Practical Nursing Foundations 2B		1 credit	29-2061	3	VO
	8418450	Medical Surgical Nursing 1A		1 credit	29-2061	3	VO
	8418460	Medical Surgical Nursing 1B		1 credit	29-2061	3	VO
	8418470	Medical Surgical Nursing 2A		1 credit	29-2061	3	VO
	8418480	Medical Surgical Nursing 2B		1 credit	29-2061	3	VO
	8418490	Comprehensive Nursing and Transitional Skills		1 credit	29-2061	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

**** The LPN 7 G district issued certification is a practical nurse. This certification can only be utilized in the 8418410 and 8418420 courses when the program is an approved nursing assistant program with the Florida Board of Nursing to teach concepts, skills and experiences solely at the Certified Nursing Assistant level and scope. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Academic Alignment Table

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8418310	18/87 21%	16/80 20%	33/83 40%	13/69 19%	28/67 42%	15/70 21%	15/69 22%	29/82 35%	18/66 27%	31/74 42%	12/72 17%
8418320	36/87 41%	5/80 6%	25/83 30%	5/69 7%	22/67 33%	2/70 3%	5/69 7%	22/82 27%	5/66 8%	22/74 30%	4/72 6%
8418330	38/87 44%	27/80 34%	7/83 8%	27/69 39%	6/67 9%	24/70 34%	27/69 39%	5/82 6%	22/66 33%	6/74 8%	26/72 36%
8418340	19/87 22%	19/80 24%	#	19/69 28%	#	19/70 27%	19/69 28%	#	14/66 21%	#	19/72 26%
8418350	34/87 39%	2/80 3%	5/83 6%	3/69 4%	2/67 3%	1/70 1%	1/69 1%	1/82 1%	1/66 2%	3/74 4%	2/72 3%
8418380	7/87 8%	5/80 6%	3/83 4%	5/69 7%	3/67 4%	2/70 3%	5/69 7%	3/82 4%	5/66 8%	3/74 4%	4/72 6%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8418310	25/67 37%	15/75 20%	18/54 33%	20/46 43%	20/45 44%	26/45 58%	26/45 58%
8418320	19/67 28%	9/75 12%	15/54 28%	8/46 17%	8/45 18%	8/45 18%	8/45 18%
8418330	17/67 25%	18/75 24%	10/54 19%	11/46 24%	11/45 24%	11/45 24%	11/45 24%
8418340	8/67 12%	14/75 19%	8/54 15%	#	#	#	#
8418350	4/67 6%	2/75 3%	1/54 2%	4/46 9%	4/45 9%	4/45 9%	4/45 9%
8418380	8/67 12%	2/75 3%	1/54 2%	14/46 30%	14/45 31%	12/45 27%	12/45 27%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Regulated Programs

This program is designed to prepare students for employment as licensed practical nurses (SOC 29-2061). The program must be approved by the Florida State Board of Nursing in order for graduates to apply to take the examination to practice as a Licensed Practical Nurse.

Please refer to Florida Statute 464.019 (1) (b) for faculty credential requirements to teach this program.

Students are eligible to apply to take the national licensing examination after satisfactory completion of an approved program. Licensure Examination for Practical Nurses, CAT NCLEX-PN is a computer-administered examination that the nursing graduate must take and pass in order to practice as a Licensed Practical Nurse.

Clinical instruction of nursing students will meet the requirements of Florida Statute 464.019. Clinical experience must make up at least 50% of the total program. Simulated practice and clinical experiences are included as an integral part of this program. Clinical Simulation may be used for no more than 50% of the total clinical experience.

Program must comply with the State Board of Nursing rules, including faculty qualifications. For questions regarding this process, please contact: Board of Nursing, 4052 Bald Cypress Way, Tallahassee, FL 32399-3752.

An approved licensed practical nurse supervisory education course can only be taken following completion of this program, and after licensure. The Graduate must have 6 months clinical experience before supervising as well as meeting all other criteria listed in 64B9-16.002.

A Licensed Practical Nurse working in a nursing home shall qualify to supervise by meeting all of the requirements in 64B9-16.002 (FS). The Supervisory course applicant must have no less than six months clinical nursing experience as an LPN. The supervisory course must be approved by the board of nursing, and must be a minimum of 30 hours in length.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Recognize and practice safety, security and emergency procedures.
03.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
04.0 Demonstrate computer literacy as related to nursing functions.
05.0 Use appropriate verbal and written communications in the performance of nursing functions.
06.0 Demonstrate legal and ethical responsibilities specific to the nursing profession.
07.0 Apply the principles of infection control, utilizing nursing principles.
08.0 Perform aseptic techniques.
09.0 Perform patient and personal care as it pertains to the practical nurse.
10.0 Provide patient-centered care for the geriatric population.
11.0 Assist with restorative (rehabilitative) activities.
12.0 Demonstrate organizational functions, following the patient plan of care.
13.0 Describe the structure and function of the human body.
14.0 Apply principles of nutrition as it relates to Practical Nursing Scope of Practice.
15.0 Describe human growth and development across the lifespan.
16.0 Demonstrate the performance of nursing procedures.
17.0 Demonstrate how to administer medication.
18.0 Demonstrate how to provide bio-psycho-social support.
19.0 Demonstrate healthy lifestyle responsibility specific to personal health maintenance.
20.0 Implement education and resources for family wellness.
21.0 Participate in Community Health Awareness Forums.
22.0 Demonstrate how to care for the surgical patient with a Cardiovascular, Respiratory, Lymphatic, Musculoskeletal, Endocrine or Integumentary disease/disorder.
23.0 Demonstrate how to care for pre-operative and post-operative patients, utilizing nursing principles.
24.0 Demonstrate how to care for the surgical patient with a Gastrointestinal, Neurological, Urinary, Reproductive or Oncologic disease/disorder. Demonstrate how to care for maternal/newborn patients, utilizing nursing principles.
25.0 Demonstrate knowledge of SIDS/ SUIDS as it relates to the practical nursing role.
26.0 Demonstrate how to care for pediatric patients, utilizing nursing principles.
27.0 Develop transitional skills.
28.0 Demonstrate employability skills specific to practical nursing.

Florida Department of Education
Student Performance Standards

Course Title: **Practical Nursing Foundations 1A**
Course Number: **8418410**
Course Credit: **1**

Course Description:

The objectives in the course include knowledge of the health care system and professions, safety, security and emergency procures, HIV/AIDS, computer literacy, basic communication skills, legal & ethical nursing concepts, principles of infection control and aseptic technique.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Practical Nursing Foundations 1A	**FS-M/LA**	**NGSSS-Sci**
01.0 Demonstrate knowledge of the healthcare delivery system and health occupations– The student will be able to:		SC.912.L.16.10
01.01 Identify the basic components of the healthcare delivery system including public, private, government and non-profit.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.02 Identify common methods of payment for healthcare services.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.03 Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.	LAFS.910.W.1.2 LAFS.910.SL.1.2 LAFS.910.SL.2.4 LAFS.910.SL.2.6 LAFS.1112.SL.1.2 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.W.1.2 LAFS.1112.W.3.7	

Practical Nursing Foundations 1A	FS-M/LA	NGSSS-Sci
	LAFS.1112.RI.1.3	
01.04 Describe the composition and functions of a healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.W.1.2 LAFS.1112.W.3.7	
01.05 Identify the general roles and responsibilities of the individual members of the healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.3.7 LAFS.1112.W.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.1	
01.06 Identify the roles and responsibilities of the consumer within the healthcare delivery system.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.07 Identify characteristics of effective teams.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
01.08 Recognize methods for building positive team relationships.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.RI.1.1	
01.09 Analyze attributes and attitudes of an effective leader.	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
01.10 Recognize factors and situations that may lead to conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2	

Practical Nursing Foundations 1A		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.1.3 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
	01.11 Demonstrate effective techniques for managing team conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
	01.12 Describe factors that influence the current delivery system of healthcare.	LAFS.910.RI.2.4 LAFS.910.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.2.4 LAFS.1112.SL.2.4	
	01.13 Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.	LAFS.910.W.2.5 LAFS.910.W.3.8 LAFS.1112.W.2.5 LAFS.1112.W.3.8 LAFS.1112.RI.1.1 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4	
02.0	Recognize and practice safety, security and emergency procedures–The student will be able to:		SC.912.N.1.1 SC.912.N.1.6
	02.01 Recognize safe and unsafe working conditions and report safety hazards.	LAFS.1112.W.4.10	
	02.02 Demonstrate the safe use of medical equipment.	LAFS.1112.SL.1.1	
	02.03 Explain and apply the theory of root- cause analysis.	LAFS.1112.SL.2.6	
	02.04 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.	LAFS.1112.RI.1.1	
	02.05 Identify and practice security procedures for medical supplies and equipment.	LAFS.1112.RI.3.8	
	02.06 Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.	LAFS.1112.SL.2.4	

Practical Nursing Foundations 1A		FS-M/LA	NGSSS-Sci
02.07	Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.	LAFS.1112.RI.3.7	
02.08	Demonstrate proper body mechanics and ergonomics.	LAFS.1112.SL.2.4	
02.09	Demonstrate the procedure for properly identifying patients.	LAFS.1112.SL.2.4	
02.10	Demonstrate procedures for the safe transport and transfer of patients.	LAFS.1112.SL.2.4	
02.11	Describe fire, safety, disaster and evacuations procedures.	LAFS.1112.L.1.1 LAFS.1112.RI.1.1	
02.12	Discuss The Joint commission patient safety goals (www.jointcommission.org) and any other applicable accrediting/regulatory agency guidelines.	LAFS.1112.RI.3.7	
02.13	Describe legal parameters relating to the administration of emergency care.	LAFS.1112.L.1.1 LAFS.1112.RI.3.8	
02.14	Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.	LAFS.1112.RI.1.1 LAFS.1112.RI.3.7 LAFS.1112.L.3.6 LAFS.1112.SL.1.2	
03.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS. –The student will be able to:		
03.01	Recognize emerging diseases and disorders.		
03.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.		
03.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.		
03.04	Identify “at risk” behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.		
03.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.		
03.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.		
04.0	Demonstrate computer literacy as related to nursing functions. –The student will be able to:		
04.01	Demonstrate effective use of technology, including use of electronic medical records and email relevant to job requirements for a Licensed Practical Nurse.		
04.02	Identify computer skills utilized for each clinical rotation and apply, as appropriate.		

Practical Nursing Foundations 1A	FS-M/LA	NGSSS-Sci
04.03 Identify methods of communication to access and distribute data such as fax, e-mail and internet.		
05.0 Use appropriate verbal and written communications in the performance of nursing functions. –The student will be able to:		
05.01 Identify characteristics of successful and unsuccessful communication including communication styles and barriers.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
05.02 Respond to verbal and non-verbal cues.	LAFS.910.SL.1.1 LAFS.1112.SL.1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
05.03 Use appropriate medical terminology and abbreviations.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
05.04 Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.	LAFS1112.SL.1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
05.05 Receive and give oral report of patient's status.	LAFS.910.SL.2.4 LAFS.910.L.3.6 LAFS.1112.SL.2.4 LAFS.1112.L.3.6	
05.06 Report and record objective and subjective pertinent observations.	LAFS.1112.RI.1.1 LAFS.1112.SL.1.1d LAFS.1112.SL.2.4	
05.07 Maintain current documentation.	LAFS.910.W.4.10 LAFS.1112.W.10	
05.08 Document changes in patient behavior and mental awareness.	LAFS.910.W.4.10 LAFS.1112.W.4.10	
05.09 Obtain specified data from patient and family.	LAFS.910.SL.1.1c LAFS.910.RI.3.7 LAFS.1112.SL.1.1A,C LAFS.1112.RI.3.7	
05.10 Define and explain the steps in the nursing process and the role of the licensed practical nurse in that process.	LAFS.910.RI.1.3 LAFS.910.SL.2.4 LAFS.1112.RI.1.3 LAFS.1112.SL.2.4	

Practical Nursing Foundations 1A		FS-M/LA	NGSSS-Sci
	05.11 Utilize nursing principles to assist with the patient's plan of care.	LAFS.910.SL.1.1c LAFS.910.RI.3.7 LAFS.1112.SL.1.1D,C LAFS.1112.L.1.1 LAFS.1112.RI.3.7	
06.0	Demonstrate legal and ethical responsibilities specific to the nursing profession. –The student will be able to:		SC.912.L.16.10 SC.912.N.1.1
	06.01 Explain the “Patient’s Bill of Rights”.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.RI.3.8 LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
	06.02 Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
	06.03 Describe advance directives.	LAFS.910.W.1.2d LAFS.1112.W.1.2d LAFS.11112.RI.1.1 LAFS.1112.L.3.6	
	06.04 Describe informed consent.	LAFS.910.W.1.2d LAFS.1112.W.1.2d LAFS.1112.RI.1.1 LAFS.1112.L.3.6	
	06.05 Recognize and report abuse including domestic violence and neglect.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
	06.06 Identify the components of the Nurse Practice Act.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
	06.07 Practice within the role and scope of the job description.		
	06.08 Discuss medical errors related to the practical nurse.		
	06.09 Define legal aspects and code of ethics related to nursing.		
	06.10 Describe the practical nurses role in delegation of duties.		
	06.11 Follow policies and procedures affecting the health, safety, and well-being of patients.		

Practical Nursing Foundations 1A		**FS-M/LA**	**NGSSS-Sci**
	06.12 Follow legal guidelines in charting, including use of electronic medical records		
07.0	Apply the principles of infection control, utilizing nursing principles. –The student will be able to:		SC.912.L.14.6 SC.912.L.14.52 SC.912.L.17.6 SC.912.L.17.14 SC.912.L.17.16
	07.01 Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.	LAFS.1112.SL.2.5	
	07.02 Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	07.03 Follow isolation procedure with food tray, garments, and other materials.	LAFS.1112.SL.2.5	
	07.04 Collect specimen from patient in isolation.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
	07.05 Identify common nosocomial infections and their prevention and treatment.		
	07.06 Identify emergent communicable diseases and their prevention and treatment.		
	07.07 Apply interventions to break each chain of infection.		
	07.08 Discuss immunity and the role of immunizations.		
	07.09 Discuss nursing responsibilities related to biological exposures.		
08.0	Perform aseptic techniques. –The student will be able to:		SC.912.L.14.52
	08.01 Apply principles of medical and surgical asepsis.		
	08.02 Apply and remove sterile gloves and gown.		
	08.03 Apply sterile dressing.		
	08.04 Open sterile equipment and supplies.		
	08.05 Maintain sterile field.		
	08.06 Clean and disinfect equipment.		

Florida Department of Education
Student Performance Standards

Course Title: **Practical Nursing Foundations 1B**
Course Number: **8418420**
Course Credit: **1**

Course Description:

This course is a continuation of Practical Nursing Foundations 1A. The objectives in the course include basic nursing care procedures, geriatric care, restorative activities, organizational functions, structure and function of the body system across the lifespan and nutrition.

Laboratory and clinical experiences are an integral part of this course.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
09.0 Perform patient and personal care as it pertains to the practical nurse.- The student will be able to:		
09.01 Demonstrate ability to accurately measure, record and report vital signs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
09.02 Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
09.03 Provide primary nursing care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1 LAFS.1112.RI.1.2 LAFS.1112.W.1.2B	
09.04 Perform patient hygiene care.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
09.05 Assist patient with activities of Daily Living (ADL) including: 09.05.01 Dressing 09.05.02 Meals	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	

Practical Nursing Foundations 1B		FS-M/LA	NGSSS-Sci
	09.05.03 Bowel and bladder training 09.05.04 Perineal care 09.05.05 Make unoccupied/occupied bed 09.05.06 Passive range of motion exercises		
09.06	Assist patient with both donning and doffing prosthesis and brace.		
09.07	Provide care for eye glasses, prosthetic eyes, and contact lens.		
10.0	Provide patient-centered care for the geriatric population.- the student will be able to:		
10.01	Incorporate professional attitudes, values, and expectations about physical and mental aging in the provision of patient-centered care for older adults and their families.	LAFS.1112.W.3.8	
10.02	Identify barriers for older adults in receiving, understanding, and giving of information.		
10.03	Use valid and reliable assessment made by registered nurse to guide nursing practice for older adults.		
10.04	Recognize living environments as it relates to functional, physical, cognitive, psychological, and social needs of older adults.	LAFS.910.RI.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.2	
10.05	Assist older adults and their support network to achieve personal goals, based on the analysis of the living environment and availability of community resources made by registered nurse.	LAFS.910.RI.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.2	
10.06	Identify actual or potential mistreatment (physical, mental or financial abuse, and/or self-neglect) in older adults and refer appropriately.		
10.07	Implement strategies and use online guidelines to prevent and/or identify and manage geriatric syndromes.		
10.08	Recognize and respect the variations of care, the increased complexity, and the increased use of healthcare resources inherent in caring for older adults.		
10.09	Recognize the complex interaction of acute and chronic co-morbid physical and mental conditions and associated treatments common to older adults.		
10.10	Discuss models of care that promote safe, quality physical and mental health care for older adults such as PACE, NICHE, Guided Care, Culture Change, and Transitional Care Models.		
10.11	Facilitate ethical, non-coercive decision making by older adults and/or families/caregivers for maintaining everyday living, receiving treatment, initiating advance directives, and implementing end-of-life care.		
10.12	Assist registered nurse to promote adherence to the evidence-based practice of providing restraint-free care (both physical and chemical restraints).		

Practical Nursing Foundations 1B		FS-M/LA	NGSSS-Sci
10.13	Demonstrate leadership and communication techniques that foster discussion and reflection on the extent to which diversity (among nurses, nurse assistive personnel, therapists, physicians, and patients) has the potential to impact the care of older adults.		
10.14	Facilitate safe and effective transitions across levels of care, including acute, community-based, and long-term care (e.g., home, assisted living, hospice, nursing homes) for older adults and their families.		
10.15	Provide patient-centered care with consideration for mental and physical health and well-being of informal and formal caregivers of older adults. .	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.SL.1.1B LAFS.1112.RI.1.2	
10.16	Advocate for timely and appropriate palliative and hospice care for older adults with physical and cognitive impairments.		
10.17	Implement and monitor strategies to prevent risk and promote quality and safety (e.g., falls, medication mismanagement, pressure ulcers) in the nursing care of older adults with physical and cognitive needs.		
10.18	Utilize resources/programs to promote functional, physical, and mental wellness in older adults.	LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.1112.RI.1.3 LAFS.1112.W.2.6 LAFS.1112.W.3.7 LAFS.1112.W.3.8	
10.19	Identify relevant theories and concepts related to the delivery of patient-centered care for older adults.		
10.20	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).	LAFS.1112.SL.1.1B LAFS.1112.SL.2.5	
10.21	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.	LAFS.1112.RI.3.7	
10.22	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).	LAFS.1112.SL.2.5	
10.23	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.		
10.24	Report concerns to the nurse related to drug use and abuse in the elderly patient.		
10.25	Identify components of the grief process as it relates the geriatric patient.		
11.0	Assist with restorative (rehabilitative) activities. –The student will be able to:		
11.01	List the purposes of restorative (rehabilitation) program.	LAFS.910.W.1.2e LAFS.910.W.2.4	

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
	LAFS.1112.W.1.2e LAFS.1112.W.2.4 LAFS.1112.W.2.6	
11.02 Assist patient with specified restorative (rehabilitation) needs.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
11.03 Assist patients/residents to reach the optimum level of independence.	LAFS.1112.SL.1.1D LAFS.1112.L.1.1	
12.0 Demonstrate organizational functions, following the patient plan of care. –The student will be able to:		
12.01 Organize patient-care assignments.	LAFS.1112.W.4.1	
12.02 Complete assignments accurately and in a timely manner.	LAFS.1112.W.4.1 LAFS.1112.L.1.1	
13.0 Describe the structure and function of the human body. –The student will be able to:		SC.912.L.12.44 SC.912.L.14.11 SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.25 SC.912.L.14.26 SC.912.L.14.27 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.37 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.L.14.41

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
		SC.912.L.14.43 SC.912.L.14.44 SC.912.L.14.45 SC.912.L.14.46 SC.912.L.14.48 SC.912.L.14.49 SC.912.L.14.50 SC.912.L.14.51 SC.912.L.16.13
13.01 Describe the relationships of body systems in providing patient care.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.02 Describe the structure and function of the respiratory system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.03 Describe the structure and function of the cardio-vascular system including lymph and immune response.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
13.04 Describe the structure and function of the muscular-skeletal system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10 LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.05 Describe the structure and function of the nervous, skin, and sensory systems.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.06 Describe the structure and function of the reproductive system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.07 Describe the structure and function of the urinary system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4	

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
	LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.08 Describe the structure and function of the digestive system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
13.09 Describe the structure and function of the endocrine system.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
14.0 Apply principles of nutrition as it relates to Practical Nursing Scope of Practice. –The student will be able to:		SC.912.L.18.1 SC.912.L.18.2 SC.912.L.18.4
14.01 Explore and utilize the U.S. Department of Agriculture's MyPlate food guide.	LAFS.1112.RI.3.8	
14.02 Explain regional, cultural, and religious food references.	LAFS.910.W.1.2c,d,e LAFS.910.SL.2.4 LAFS.1112.SL.1.2 LAFS.1112.W.1.2c,d,e LAFS.1112.SL.2.4	
14.03 Prepare a basic food plan.	LAFS.1112.RI.3.8 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
14.04 Demonstrate knowledge of the need for thickened liquids and fluid consistency.		

Practical Nursing Foundations 1B	**FS-M/LA**	**NGSSS-Sci**
14.05 Identify methods of maintaining fluid balance including forcing and restricting fluids.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
14.06 Monitor and document Nutritional Intake.		
14.07 Assist patient with and maintain therapeutic diets.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
14.08 Describe the nutrients, their sources and significance in promoting health.		
14.09 List factors which must be considered when purchasing food.	LAFS.910.W.4.10 LAFS.910.W.1.1c LAFS.910.W.1.2e LAFS.1112.W.4.10 LAFS.1112.W.1.1c LAFS.1112.W.1.2e	
14.10 List factors which must be considered when storing food safely.	LAFS.910.W.4.10 LAFS.910.W.1.1c LAFS.910.W.1.2e LAFS.1112.W.4.10 LAFS.1112.W.1.1c LAFS.1112.W.1.2e	
14.11 Identify methods of safe food preparation.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	

Florida Department of Education
Student Performance Standards

Course Title: **Practical Nursing Foundations 2A**
Course Number: **8418430**
Course Credit: **1**

Course Description:

The objectives in the course include growth & development across the lifespan, performance of nursing procedures, pharmacology, mental health, healthy lifestyle, and education for family and community awareness.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Practical Nursing Foundations 2A	**FS-M/LA**	**NGSSS-Sci**
15.0 Describe human growth and development across the lifespan. –The student will be able to:		SC.912.L.16.13
15.01 Describe characteristics of growth and development from conception to birth.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
15.02 Describe characteristics of growth and development from birth through preschool.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4	

Practical Nursing Foundations 2A	**FS-M/LA**	**NGSSS-Sci**
	LAFS.1112.W.4.10	
15.03 Describe characteristics of growth and development from school age through adolescence.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
15.04 Describe characteristics of growth and development of the adult through the life span.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.910.W.1.2a,d,e LAFS.910.W.2.4 LAFS.910.W.4.10 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.1.2a,d,e LAFS.1112.W.2.4 LAFS.1112.W.4.10	
15.05 Identify components of the grief process across the lifespan.	LAFS.910.SL.1.1a LAFS.910.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.W.3.8	
16.0 Demonstrate the performance of nursing procedures (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		SC.912.L.14.14 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.33 SC.912.L.14.44 SC.912.L.14.45 SC.912.L.14.46 SC.912.L.14.48 SC.912.L.14.49 SC.912.L.14.51 SC.912.L.14.52 SC.912.N.1.1 SC.912.P.10.18

Practical Nursing Foundations 2A	FS-M/LA	NGSSS-Sci
16.01 Perform data collection.		
16.02 Apply hot and cold applications.		
16.03 Assist patient with sitz bath.		
16.04 Describe and demonstrate how to monitor patient's pre and post special procedures (e.g. I.V.P., myelogram, MRI, CAT scan).		
16.05 Apply bandage.		
16.06 Perform clean and sterile dressing changing procedures.		
16.07 Insert urinary catheter.		
16.08 Obtain specimen from patient with indwelling catheter.		
16.09 Remove retention catheter.		
16.10 Demonstrate how to assist with physical examination.		
16.11 Assist patient with diagnostic procedures.		
16.12 Irrigate wound.		
16.13 Apply pelvic belt for traction.		
16.14 Apply cervical collar.		
16.15 Apply orthopedic devices including binders, braces and splints.		
16.16 Apply anti-embolic hose and sequential compression devices.		
16.17 Care for patient in skin, skeletal traction and external fixators.		
16.18 Clean tong/pin site.		
16.19 Describe and demonstrate how to monitor chest drainage system.	MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
16.20 Perform naso-oral suction.		
16.21 Perform tracheostomy care.		

Practical Nursing Foundations 2A	FS-M/LA	NGSSS-Sci
16.22 Demonstrate how to instruct patient in breathing exercises.		
16.23 Set up vaporizer/humidifier.		
16.24 Administer and maintain oxygen.		
16.25 Collect timed urine specimen.		
16.26 Collect clean-catch (midstream-voided) urine specimen.		
16.27 Test urine using point of care testing procedures.		
16.28 Irrigate urinary catheter.		
16.29 Demonstrate how to maintain continuous urinary bladder irrigation.		
16.30 Change ostomy appliance.		
16.31 Connect nasogastric tube to suction machine.		
16.32 Remove nasogastric tube.		
16.33 Administer enteral feeding.		
16.34 Give enema.		
16.35 Test stool for occult blood.		
16.36 Irrigate nasogastric tube.		
16.37 Irrigate oral cavity.		
16.38 Irrigate colostomy.		
16.39 Demonstrate how to maintain enteral feeding tubes.	MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
16.40 Perform neurological checks.	MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
16.41 Logroll patient.		
16.42 Irrigate ear.		
16.43 Irrigate eye.		

Practical Nursing Foundations 2A		FS-M/LA	NGSSS-Sci
	16.44 Irrigate vaginal canal.		
	16.45 Obtain and test a drop of blood for glucose monitoring.		
	16.46 Perform calculation and adjust IV flow rate.	MAFS.912.A.REI.2.3 MAFS.912.A-SSE.1.1	
	16.47 Observe intravenous infusion and report signs of adverse reactions.		
	16.48 Inspect insertion site, change dressing, and remove IV needle or catheter from peripheral veins.		
	16.49 Hang bags or bottles of hydrating fluid.		
17.0	Demonstrate how to administer medication (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		SC.912.L.14.20 SC.912.L.14.50 SC.912.L.14.51
	17.01 Identify controlled substances and associated legal and safety issues.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3 MAFS.912.A.REI.2.3 MAFS.912.A-SSE.1.1	
	17.02 Demonstrate accurate dosage calculation.		
	17.03 Demonstrate the six rights of administering medication.		
	17.04 Demonstrate how to observe and respond to patient's need for medication.		
	17.05 Demonstrate how to administer topical medication.		
	17.06 Administer inhalants.		
	17.07 Administer oral medication.		
	17.08 Administer sublingual medication.		
	17.09 Administer rectal medication.		
	17.10 Administer vaginal medication.		
	17.11 Administer eye medications.		
	17.12 Administer ear drops.		

Practical Nursing Foundations 2A		**FS-M/LA**	**NGSSS-Sci**
17.13	Administer nose drops.		
17.14	Administer intramuscular injection (including Z-tract).		
17.15	Administer intradermal injection.		
17.16	Administer subcutaneous injection.		
17.17	Properly obtain, monitor and document use of controlled substances.		
17.18	Instill bladder medication.		
17.19	Care for equipment and supplies used to administer medications.		
17.20	Assist the patient with self-administration of medications; reinforce teaching by the RN on the patient's medication, their expected effects and potential side effects.		
17.21	Observe and communicate effects of medications to the patient's assigned nurse.	LAFS.910.W.1.2d LAFS.910.W.2.4 LAFS.910.W.2.6 LAFS.1112.W.1.2d LAFS.1112.W.2.4 LAFS.910.W.2.6	
17.22	Document administration of medication and patient's response on medical record.	LAFS.910.W.1.2d LAFS.1112.W.1.2d	
17.23	Store medications properly according to facility policy and procedures.		
17.24	Demonstrate use of medication resources.		
18.0	Demonstrate how to provide bio-psycho-social support (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) --The student will be able to:		
18.01	Discuss family roles and their significance to health.		
18.02	Respond to emotional needs of patient and family.		
18.03	Demonstrate therapeutic communication.		
18.04	Discuss coping mechanisms as seen in the performance of healthcare.	LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.1112.W.3,8 LAFS.1112.SL.1.1a	

Practical Nursing Foundations 2A	FS-M/LA	NGSSS-Sci
18.05 Differentiate between mental health and mental illness.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
18.06 Recognize signs and symptoms of the various mental health disorders.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
18.07 Discuss treatment modalities for the various mental health disorders.	LAFS.910.SL.1.1a LAFS.910.SL.2.4 LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
18.08 Recognize the signs and symptoms for potential suicide and homicidal ideations in the patient and initiate appropriate interventions.	LAFS.910.SL.1.1a LAFS.910.SL.1.1c LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS.1112.SL.1.1c LAFS.1112.RI.1.2	
18.09 Describe treatments and resources for the addicted client.	LAFS.910.RI.2.4 LAFS.910.W.3.8 LAFS.910.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.W.3.8 LAFS.910.RI.1.2	
18.10 Describe drug seeking behaviors and resources for potential risk of addiction.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4	
18.11 Identify an individual in crisis and describe appropriate interventions.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.910.SL.1.1c LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS.1112.SL.1.1c	
18.12 Describe the common personality traits in mental health disorders including addictive behaviors.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.910.SL.1.1c LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS.1112.SL.1.1c	
18.13 Correlate common psychological and developmental theories with both bio-, psycho-social components of health.		

Practical Nursing Foundations 2A		**FS-M/LA**	**NGSSS-Sci**
19.0	Demonstrate healthy lifestyle responsibility specific to personal health maintenance. –The student will be able to:		
19.01	Identify psychological reactions to illness including defense mechanisms.		
19.02	Identify complementary and alternative health practices.		
19.03	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.		
19.04	Explain the basic concepts of positive self-image, wellness and stress.		
19.05	Develop a wellness and stress control plan that can be used in personal and professional life.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
19.06	Discuss annual medical screenings		
19.07	Define dental health and self-care practices		
19.08	Provide education in warning signs and risk factors for mental health issues		
19.09	Apply cultural diversity related to spirituality		
19.10	Identify education level		
19.11	Discuss occupation ability		
19.12	Provide resources financial safety and security		
20.0	Implement education and resources for family wellness. – The student will be able to:		
20.01	Discuss risk factors in communicable diseases		
20.02	Provide provider community resources for prenatal care		
20.03	Apply knowledge into healthy parenting styles		
20.04	Provide current immunization practices		

Practical Nursing Foundations 2A		**FS-M/LA**	**NGSSS-Sci**
	20.05 Discuss healthy nutrition options and resources		
	20.06 Define abuse and neglect in relationships		
	20.07 Apply insight into safe housing environments/communities		
	20.08 Discuss school and family collaboration in education		
21.0	Participate in Community Health Awareness Forums. – The student will be able to:		
	21.01 Perform basic medical screenings such as vital signs, weight, glucose, cholesterol, and body mass index		
	21.02 Discuss risk factors, screenings and resources for cancer		
	21.03 Identify and provide resources for mental health conditions including suicide and substance abuse		
	21.04 Discuss social and financial risk factors related to the aging adult		
	21.05 Define safe housing strategies for senior living		
	21.06 Discuss collaborative community strategies from healthcare providers, law enforcement agencies, religious affiliates, education systems, and legislative offices.		

Florida Department of Education
Student Performance Standards

Course Title: **Practical Nursing Foundations 2B**
Course Number: **8418440**
Course Credit: **1**

Course Description:

This course is a continuation of Practical Nursing Foundation 2A and may be concurrent with Practical Nursing Foundation 2A. Clinical experiences will allow the student to practice the role of the practical nurse as a member of the health team and to participate in the health and wellness aspects of the patient and family.

The clinical experience provides the student with the opportunity to build on acquired knowledge and skills, to practice and develop skills in selected procedures, including administration of medications, to apply nursing principles in meeting the needs of medical surgical patients including the aged and/or chronically ill patient, and practice and understand the role of the practical nurse. It reinforces and expands practice with common diseases included in Practical Nursing Foundations 1.

Florida Department of Education
Student Performance Standards

Course Title: **Medical Surgical Nursing 1A**
Course Number: **8418450**
Course Credit: **1**

Course Description:

The objectives in the course include Medical/ Surgical Nursing procedures for the following body systems: Circulatory/ Cardiovascular, Respiratory, Lymphatic/Immune, Musculoskeletal, Endocrine, and Integumentary/Sensory and care for the Pre- Op and Post- Op patient.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Medical Surgical Nursing 1A	**FS-M/LA**	**NGSSS-Sci**
22.0 Demonstrate how to care for the surgical patient with a Cardiovascular, Respiratory, Lymphatic, Musculoskeletal, Endocrine or Integumentary disease/disorder (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		SC.912.L.14.11 SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.25 SC.912.L.14.26 SC.912.L.14.27 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.37

Medical Surgical Nursing 1A	**FS-M/LA**	**NGSSS-Sci**
		SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.L.14.41 SC.912.L.14.43 SC.912.L.14.44 SC.912.L.14.45 SC.912.L.14.46 SC.912.L.14.47 SC.912.L.14.48 SC.912.L.14.49 SC.912.L.14.50 SC.912.L.14.51 SC.912.L.14.52 SC.912.L.16.13 SC.912.N.1.1 SC.912.P.8.11 SC.912.P.8.12 SC.912.P.10.18
22.01 Identify signs and symptoms of disease/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
22.02 Identify diagnostic tests used in the treatment of diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
22.03 Identify medications used in the treatment of diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2	

Medical Surgical Nursing 1A	FS-M/LA	NGSSS-Sci
	LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
22.04 Identify nutritional needs of patients with diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
22.05 Identify the symptoms of acute/chronic psychological distress.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
22.06 Care for the patient with a: 22.06.01 Cardiovascular/Circulatory disease/disorder 22.06.02 Respiratory disease/disorder 22.06.03 Lymphatic/Immune disease/disorder 22.06.04 Musculoskeletal disease/disorder 22.06.05 Endocrine disease/disorder 22.06.06 Integumentary/Sensory disease/disorder		
23.0 Demonstrate how to care for pre-operative and post-operative patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		
23.01 Assist the RN with pre-operative and post-operative teaching.	LAFS.910.SL.2.4 LAFS.910.SL1.1a LAFS.1112.SL.2.4 LAFS.1112.SL.1.1a	
23.02 Perform a surgical prep.		

Medical Surgical Nursing 1A	FS-M/LA	NGSSS-Sci
23.03 Prepare patient for operating room.		
23.04 Provide post-operative care.		
23.05 Reinforce post-operative discharge teaching provided by the RN.	LAFS.910.SL.2.4 LAFS.910.SL.1.1a LAFS.1112.SL.2.4 LAFS.1112.SL.1.1a	

Florida Department of Education
Student Performance Standards

Course Title: **Medical Surgical Nursing 1B**
Course Number: **8418460**
Course Credit: **1**

Course Description:

This course is a continuation of Medical Surgical Nursing 1A and may be concurrent with Medical Surgical Nursing 1A. Clinical experiences will allow the student to practice the role of the practical nurse as a member of the health team and to participate in the health and wellness aspects of the patient and family.

The clinical experience provides the student with the opportunity to build on acquired knowledge and skills, to practice and develop skills in selected procedures, including administration of medications, to apply nursing principles in meeting the needs of medical surgical patients, the aged and/or chronically ill patient, and practice and understand the role of the practical nurse.

Florida Department of Education
Student Performance Standards

Course Title: **Medical Surgical Nursing 2A**
Course Number: **8418470**
Course Credit: **1**

Course Description:

The objectives in the course include Medical/ Surgical Nursing procedures for the following body systems: Gastrointestinal, Neurological, Urinary, and Reproductive or Oncologic.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

Medical Surgical Nursing 2A	**FS-M/LA**	**NGSSS-Sci**
24.0 Demonstrate how to care for the surgical patient with a Gastrointestinal, Neurological, Urinary, Reproductive or Oncologic disease/disorder. (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		SC.912.L.14.11 SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.15 SC.912.L.14.16 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.21 SC.912.L.14.25 SC.912.L.14.26 SC.912.L.14.27 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.37

Medical Surgical Nursing 2A	**FS-M/LA**	**NGSSS-Sci**
		SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.L.14.41 SC.912.L.14.43 SC.912.L.14.44 SC.912.L.14.45 SC.912.L.14.46 SC.912.L.14.47 SC.912.L.14.48 SC.912.L.14.49 SC.912.L.14.50 SC.912.L.14.51 SC.912.L.14.52 SC.912.L.16.13 SC.912.N.1.1 SC.912.P.8.11 SC.912.P.8.12 SC.912.P.10.18
24.01 Identify signs and symptoms of disease/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
24.02 Identify diagnostic tests used in the treatment of diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
24.03 Identify medications used in the treatment of diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2	

Medical Surgical Nursing 2A	**FS-M/LA**	**NGSSS-Sci**
	LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
24.04 Identify nutritional needs of patients with diseases/disorders of the body systems.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
24.05 Identify the symptoms of acute/chronic psychological distress.	LAFS.910.L.3.6 LAFS.910.W.3.8 LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.1112.L.3.6 LAFS.1112.W.3.8 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2	
24.06 Care for the patient with a: 24.06.01 Gastrointestinal disease/disorder 24.06.02 Neurological disease/disorder 24.06.03 Urinary disease/disorder 24.06.04 Reproductive disease/disorder 24.06.05 Oncologic disease/disorder		

Florida Department of Education
Student Performance Standards

Course title: **Medical Surgical Nursing 2B**
Course number: **8418480**
Course credit: **1**

Course Description: This course is a continuation of Medical Surgical Nursing 2A and may be concurrent with Medical Surgical Nursing 2A. Clinical experiences will allow the student to practice the role of the practical nurse as a member of the health team and to participate in the health and wellness aspects of the patient and family.

The clinical experience provides the student with the opportunity to build on acquired knowledge and skills, to practice and develop skills in selected procedures, including administration of medications, to apply nursing principles in meeting the needs of medical surgical patients, the aged and/or chronically ill patient, and practice and understand the role of the practical nurse.

Florida Department of Education
Student Performance Standards

Course Title: **Comprehensive Nursing and Transitional Skills**
Course Number: **8418490**
Course Credit: **1**

The objectives in this course include obstetrics care, SUIDS education for patients, pediatric care, graduate transition and employability skills for the practical nurse.

The clinical experience provides the student with the opportunity to build on acquired knowledge and skills, to practice and develop skill in selected procedures, to apply nursing principles in meeting the needs of the obstetrical patient and the newborn, the child and the elderly patient and to practice the role of the practical nurse as a member of the health team and to participate in the health and wellness aspects of the patient and family.

Comprehensive Nursing and Transitional Skills	**FS-M/LA**	**NGSSS-Sci**
25.0 Demonstrate how to care for maternal/newborn patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		SC.912.L.14.38 SC.912.L.14.41
25.01 Describe prenatal care and normal development of the fetus.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
25.02 Identity complications and interventions during pregnancy.		
25.03 Describe how to assist the RN with admitting the patient to labor and delivery.		
25.04 Describe the stages of the labor process and nursing responsibilities.		
25.05 Describe the importance of monitoring contractions.	MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
25.06 Recognize the importance of monitoring fetal heart rate.	MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6B	
25.07 Recognize signs/symptoms of fetal distress.	LAFS.910.SL.1.1a LAFS.910.RI.1.2	

Comprehensive Nursing and Transitional Skills	FS-M/LA	NGSSS-Sci
	LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
25.08 Describe signs of complications during labor and delivery and nursing interventions.		
25.09 Demonstrate how to assist the RN with preparing the patient for Caesarean.		
25.10 Describe and demonstrate care during delivery process.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
25.11 Describe Apgar score.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6 MAFS.912.N-Q1.2	
25.12 Demonstrate how to suction infant's respiratory passage with bulb syringe.		
25.13 Demonstrate how to identify infant using mother's bracelet.		
25.14 Demonstrate how to weigh and measure infant.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.A.SSE.1.1 MAFS.912.A.REI.2.3 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6b	
25.15 Demonstrate how to bathe infant.		

Comprehensive Nursing and Transitional Skills		FS-M/LA	NGSSS-Sci
	25.16 Demonstrate how to carry infant.		
	25.17 Demonstrate how to feed infant.		
	25.18 Demonstrate how to collect urine specimen from infant.		
	25.19 Describe post- partum care.		
	25.20 Demonstrate perineal care.		
	25.21 Describe breast care for both breast feeding and bottle feeding mothers.		
	25.22 Assist mother with infant care.		
	25.23 Describe the care required for an infant with a circumcision.		
	25.24 Demonstrate perineal care and diapering technique.		
	25.25 Describe the discharge process of the postpartum and infant patient.		
26.0	Demonstrate knowledge of SIDS/ SUIDS as it relates to the practical nursing role. –The student will be able to:		
	26.01 Define SIDS and Sudden Unexpected Infant Death (SUID).		
	26.02 Identify the critical SIDS/SUID risk-reduction methods for parents and caregivers.		
	26.03 Demonstrate an understanding of the benefits of back sleeping for newborns and infants.		
	26.04 Describe the LPN's key role as educators to parents and caregivers about SIDS/SUID.		
27.0	Demonstrate how to care for pediatric patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:		
	27.01 Describe how to adapt nursing care for the pediatric patient.		
	27.02 Describe how to apply safety principles for the pediatric patient.		
	27.03 Describe general characteristics, particular needs, and problems of pediatric patients.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a	

Comprehensive Nursing and Transitional Skills	FS-M/LA	NGSSS-Sci
	LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
27.04 Demonstrate how to prepare patient and family for the hospital experience.		
27.05 Identify signs and symptoms of common disorders/diseases.		
27.06 Demonstrate how to implement prescribed nutritional requirement.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.07 Demonstrate how to provide diversion and recreational activities.		
28.0 Develop transitional skills. --The student will be able to:		
28.01 Organize complex patient care assignments with multiple clients.		
28.02 Discuss F.S. 464 and the corresponding Rules.	LAFS.910.RI.1.2 LAFS.910.W.1.2a LAFS.910.L.3.6 LAFS.1112.RI.1.2 LAFS.1112.W.1.2a LAFS.1112.L.3.6	
28.03 Discuss the scope of practice of a Licensed Practical Nurse in a leadership/supervisory role.	LAFS.910.RI.1.2 LAFS.910.W.1.2a LAFS.910.L.3.6 LAFS.1112.RI.1.2 LAFS.1112.W.1.2a LAFS.1112.L.3.6	
28.04 Describe the role of the LPN in delegation to unlicensed personnel.	LAFS.910.RI.1.2 LAFS.910.W.1.2a LAFS.910.L.3.6 LAFS.1112.RI.1.2 LAFS.1112.W.1.2a LAFS.1112.L.3.6	
28.05 Describe the Florida Board of Nursing requirements for licensure renewal.	LAFS.910.RI.1.2 LAFS.910.W.1.2a LAFS.910.L.3.6 LAFS.1112.RI.1.2 LAFS.1112.W.1.2a LAFS.1112.L.3.6	

Comprehensive Nursing and Transitional Skills		FS-M/LA	NGSSS-Sci
28.06	Demonstrate an understanding of licensure by examination and by endorsement.		
28.07	Complete application for licensure by examination.		
28.08	Discuss current legislation pertinent to the Florida Board of Nursing and its effect on your nursing practice.	LAFS.910.RI.1.2 LAFS.910.W.2a LAFS.910.W.3.8 LAFS.1112.RI.1.2 LAFS.1112.W.2a LAFS.1112.W.3.8	
28.09	Determine how to apply for membership in a professional organization.	LAFS.910.W.2.6 LAFS.1112.W.2.6	
28.10	Discuss benefits and responsibilities of the LPN in membership in a professional organization.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a	
29.0	Demonstrate employability skills specific to practical nursing. --The student will be able to:		
29.01	Identify personal traits or attitudes desirable in a member of the healthcare team.		
29.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).		
29.03	Recognize the potential for stress in the practice of nursing and develop methods of managing stress.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	
29.04	Recognize the potential for violence in the workplace and describe methods of reducing that potential.	LAFS.910.SL.1.1a LAFS.910.RI.1.2 LAFS.910.W.3.8 LAFS.910.L.3.6 LAFS.1112.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.W.3.8 LAFS.1112.L.3.6	

Comprehensive Nursing and Transitional Skills	FS-M/LA	NGSSS-Sci
29.05 Identify employment opportunities for licensed practical nurses	LAFS.910.W.2.6 LAFS.1112.W.2.6	
29.06 Participate in interview skill development activities.	LAFS.910.SL.2.6 LAFS.910.SL.1.1c LAFS.1112.SL.2.6 LAFS.1112.SL.1.1c	
29.07 Complete letters of job application and resignation.	LAFS.910.W.1.2c,d,e LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.L.1.1 LAFS.910.L.1.2 LAFS.910.L.3.6 LAFS.1112.W.1.2c,d,e LAFS.1112.W.2.5 LAFS.1112.W.2.6 LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.L.3.6	
29.08 Complete a professional portfolio, including a resume	LAFS.910.W.1.2c,d,e LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.L.1.1 LAFS.910.L.1.2 LAFS.910.L.3.6 LAFS.910.W.2.4 LAFS.910.W.3.7 LAFS.910.W.4.10 LAFS.1112.W.1.2c,d,e LAFS.1112.W.2.5 LAFS.1112.W.2.6 LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.L.3.6 LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.W.4.10	

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The occupational standards and benchmarks outlined in this secondary program correlate to the standards and benchmarks of the postsecondary program with the same Classification of Instructional Programs (CIP) number.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Electrocardiograph Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

Secondary – Career Preparatory	
Program Number	8427100
CIP Number	0351090204
Grade Level	9-12, 30, 31
Standard Length	3 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2031 Cardiovascular Technologists and Technicians

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

The program is designed to prepare students for employment as EKG Technicians (SOC Code: 29-2031 Cardiovascular Technologists and Technicians).

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of three courses and two occupational completion points. The two credit core is required as a prerequisite for all programs and options. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The two courses in the core are:

8417100 - Health Science Anatomy and Physiology (Previously titled Health Science 1)
8417110 - Health Science Foundations (Previously titled Health Science 2)

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit	31-9099	3	VO
B	8427130	Electrocardiograph Technician 3	LAB TECH @7 7G EKG 7G REG NURSE 7 G PARAMEDIC @7 7G MED ASST 7G TEC X RAY @7 7G RESP THER @7 7G MED PROF 7G LAB ASST @7 7G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	1 credit	29-2031	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%
8427130	31/87 36%	26/80 33%	4/83 5%	23/69 33%	3/67 4%	25/70 36%	24/69 35%	2/82 2%	21/66 32%	2/74 3%	26/72 36%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%
8427130	8/67 12%	16/75 21%	8/54 15%	#	#	6/45 13%	6/45 13%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards
After successfully completing this program, the student will be able to perform the following:

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.
12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Standards 28-34 encompass competencies specific to EKG Technician:

28.0 Describe the cardiovascular system.
29.0 Identify legal and ethical responsibilities of an EKG technician.
30.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
31.0 Perform patient care techniques in the health care facility.
32.0 Recognize normal and abnormal monitoring and testing results.
33.0 Describe cardiovascular drugs, their actions, use and adverse effects.

34.0 Demonstrate knowledge of other cardiovascular diagnostic modalities.

Florida Department of Education
Student Performance Standards

Health Science Core:

The first two courses in this program are referred to as the Health Science Core and consist of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. To ensure consistency whenever these courses are offered, the standards and benchmarks for the health science core have been placed in a separate document.

The two credit core is required as a prerequisite for all secondary programs except for Practical Nursing and Pharmacy Technician. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:
This course is part of the secondary Health Core consisting of an overview of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:
This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students may shadow professionals throughout the course.

Florida Department of Education
Student Performance Standards

Course Title: **Electrocardiograph Technician 3**
Course Number: **8427130**
Course Credit: **1**

Course Description:

This course prepares students to be employed as Electrocardiograph Technicians. Content includes, but is not limited to, a foundation in the cardiovascular system, safety measures for the individual, co-workers and patients as well we training in the appropriate theories and instruments used by an Electrocardiograph Technician.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
28.0	Describe the cardiovascular system.--The student will be able to:		SC.912.L.14.6 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.49
28.01	Locate the heart and surrounding structures.	LAFS.1112.RI.3.7	
28.02	Diagram and label the parts of the heart and list the functions of each labeled part.	LAFS.1112.RI.3.7 LAFS.1112.W.2.4	
28.03	Trace the flow of blood through the cardiopulmonary system.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
28.04	Identify and describe the electrical conduction system.		
28.05	Describe the function of the autonomic nervous system.		
28.06	Describe a patient demonstrating poor perfusion and understand the importance of rapid reporting.		
29.0	Identify legal and ethical responsibilities of an EKG technician.--The student will be able to:		SC.912.L.16.10 SC.912.N.1.1

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
29.01	Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.	LAFS.1112.W.2.4	
29.02	Maintain a safe and efficient work environment.	LAFS.1112.SL.1.2	
29.03	Maintain EKG equipment so it will be safe and accurate.	LAFS.1112.SL.1.2	
29.04	Implement appropriate Joint Commission patient safety goals and other applicable accrediting/regulatory agency guidelines.	LAFS.1112.SL.1.2	
30.0	Demonstrate knowledge of, apply and use medical instrumentation modalities.-The student will be able to:		SC.912.L.14.37 SC.912.N.1.1 SC.912.P.10.20 SC.912.P.12.2 SC.912.P.12.9
30.01	Calibrate and standardize the cardiograph instrument.	LAFS.1112.SL.1.2	
30.02	Identify three types of lead systems.	LAFS.1112.SL.2.5 LAFS.1112.RI.3.7	
30.03	State Einthoven's triangle.	LAFS.1112.SL.1.2	
30.04	Demonstrate proper lead placement including lead placement for patients with special needs to include pediatric, posterior and right sided EKGs.	LAFS.1112.SL.1.2	
30.05	Identify artifacts and mechanical problems.	LAFS.1112.SL.2.5	
30.06	Perform a 12 lead EKG.	LAFS.11.12.RI.3.7 LAFS.1112.SL.1.2	
30.07	Recognize normal sinus rhythm.	LAFS.1112.SL.2.5	
30.08	Report any rhythm that is not normal sinus rhythm.	LAFS.1112.RI.2.4 LAFS.1112.RI.3.7	
30.09	Recognize and respond cardiac emergency as seen on the EKG and understand the importance of rapid reporting.	LAFS.1112.SL.2.4 LAFS.1112.RI.2.4	
30.10	Use documentation skills to identify electrocardiographs.	LAFS.1112.SL.2.4	
31.0	Perform patient care techniques in the health care facility.--The student will be able to:		SC.912.N.1.1
31.01	Describe the physical and mental preparation of the patient for EKG testing.	LAFS.1112.W.2.4	
31.02	Identify patient and verify the requisition order.	LAFS.1112.W.2.4	
31.03	Prepare patient for cardiovascular diagnostic testing.	LAFS.1112.SL.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	31.04 Take patient's vitals in preparation for cardiovascular diagnostic testing and report abnormalities.		
	31.05 State precautions required when performing cardiovascular diagnostic procedures.	LAFS.1112.SL.2.4	
	31.06 Convey the importance of maintaining a safe patient environment and evaluate potential hazards in each environment.		
32.0	Recognize normal and abnormal monitoring and testing results.--The student will be able to:		
	32.01 Measure waves, segments, complexes, rates and intervals.		
	32.02 Identify electrical axis.		
	32.03 List purposes for pacemakers and indications for insertion.		
	32.04 Recognize normal and deviations from normal sinus rhythms.		
	32.05 Recognize all atrial rhythms.		
	32.06 Recognize all atrioventricular rhythms.		
	32.07 Recognize all ventricular rhythms.		
	32.08 Recognize all types of heart blocks.		
	32.09 Recognize normal and deviations from normal pacemaker rhythms.		
	32.10 Recognize indications of myocardial ischemia and infarction.		
	32.11 Recognize all atrial and ventricular hypertrophies.		
	32.12 Recognize all extrasystole and other rare phenomena.		
	32.13 Recognize normal and deviations from normal 12 lead EKG results.		
	32.14 Describe potential patient responses to brady- or tachy-dysrhythmias as well as other EKG abnormalities.		
	32.15 Recognize and respond promptly to cardiac emergency through rapid reporting while monitoring rhythms.		
33.0	Describe cardiovascular drugs, their actions, use and adverse effects.--The student will be able to:		
	33.01 Describe mechanisms by which common cardiovascular drugs work including actions and adverse effects.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	33.02 Differentiate between normal and abnormal EKG changes due to drugs.		
34.0	Demonstrate knowledge of other cardiovascular diagnostic modalities.--The student will be able to:		
	34.01 Demonstrate knowledge of the application of a Holter Monitor and provide patient education of its use.		
	34.02 Demonstrate the procedures for preparing the patient for stress testing/scanning exercise treatment.		
	34.03 Understand and demonstrate patient documentation for all types of monitoring.		
	34.04 Describe other modalities of cardiovascular diagnosis and interpretation.		
	34.05 Maintain patient cardiac alarm policy at all times.		

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

This program requires a clinical component of approximately 50% the length of the courses following the health science core. A portion of the clinical experience can be achieved through simulation when appropriate.

Clinical courses require contact hours in the clinical setting in order to complete the health science program. Hospitals, nursing homes, and other clinical facilities with clinical affiliation agreements limit the number of students that can rotate and/or be on site at one time. Most facilities, including hospitals and nursing homes, limit the number of students to 15. Due to these industry limitations, it is recommended that the student ratio be 15:1 (student/teacher) based on the clinical facilities that students attend to for clinical training.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Following the completion of the Health Science Core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Biomedical Sciences**
Program Type: **Non Career Preparatory**
Career Cluster: **Health Science**

Secondary – Non Career Preparatory	
Program Number	8708100
CIP Number	0326010201
Grade Level	9-12, 30, 31
Standard Length	4 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The purpose of this program is to provide students with a foundation of knowledge and technically oriented experiences in the study and applications of biomedical sciences and the possibilities in the biomedical field.

The content includes but is not limited to the study of human body systems, medicine, health, key biological concepts, communication, transport of substances, locomotion, metabolic processes, defense, protection, research processes, engineering principles and an introduction to bio-informatics. The program also includes the design and development of various medical interventions, including vascular stents, cochlear implants, and prosthetic limbs. In addition, students review the history of organ transplants and gene therapy, and stay updated on cutting-edge developments via current scientific literature.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

Students complete the three foundation courses (8708110, 8708120, and 8708130), and the capstone course (8708140).

This program is a planned sequence of instruction consisting of four courses.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

Course Number	Course Title	Teacher Certification	Length	Level	Graduation Requirement
8708110	Principles of the Biomedical Sciences	BIOLOGY 1 @2 REG NURSE 7 G MED PROF 7 G PARAMEDIC @7 7G LAB TECH @7 7G PLTW HEALTH 7G	1 credit	3	EQ
8708120	Human Body Systems		1 credit	3	EQ
8708130	Medical Interventions		1 credit	3	EQ
8708140	Biomedical Innovation		1 credit	3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8708110	26/87 30%	9/80 11%	52/83 63%	8/69 12%	27/67 40%	10/70 14%	24/69 35%	38/82 46%	9/66 14%	33/74 45%	5/72 7%
8708120	50/87 57%	16/80 20%	44/83 53%	13/69 19%	31/67 46%	12/70 17%	15/69 22%	34/82 41%	18/66 27%	35/74 47%	12/72 17%
8708130	44/87 51%	44/80 55%	24/83 29%	38/69 55%	11/67 16%	40/70 57%	47/69 68%	14/82 17%	38/66 58%	19/74 26%	37/72 51%
8708140	31/87 36%	33/80 41%	15/83 18%	30/69 43%	6/67 9%	35/70 50%	35/69 51%	7/82 9%	33/66 50%	9/74 12%	29/72 40%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8708110	22/67 33%	14/75 19%	18/54 33%	15/46 33%	15/45 33%	#	#
8708120	30/67 45%	19/75 25%	21/54 39%	21/46 46%	21/45 47%	#	#
8708130	10/67 15%	21/75 28%	9/54 17%	#	#	13/45 29%	13/45 29%
8708140	10/67 15%	20/75 27%	8/54 15%	#	#	18/45 40%	18/45 40%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the nature of science and how to correctly use appropriate scientific equipment
02.0 Describe the importance of professional ethics and legal responsibilities
03.0 Understand the structure and functions of the major human body systems, the organs making up these systems and the interconnections between body systems
04.0 Understand how determining the cause of death involves the investigation of many aspects of the medical condition of the victim
05.0 Explore various careers related to biomedical science and its impact
06.0 Understand and describe the importance of the circulatory system by examining the structure and function of the heart
07.0 Understand and describe the importance of blood in relation to the circulatory system and the human body
08.0 Demonstrate an understanding of how food and water are essential to the health of the human body
09.0 Describe how food provides nutrients for the body to help maintain homeostasis
10.0 Describe and discuss the causes, symptoms, treatments and effects of diabetes and the impact that this specific disease has on the human body and human lifestyle
11.0 Investigate the significance of DNA and Chromosomes in the human body
12.0 Describe factors that contribute to sickle cell disease and the impact it can have on the human body
13.0 Understand the factors involved in heredity and mutation in relation to sickle cell disease
14.0 Examine how changes in chromosomes or genes can cause disease/chromosomal abnormalities
15.0 Demonstrate an understanding of the function of cholesterol in the body and its role in heart disease
16.0 Describe molecular biological techniques for diagnosing diseases, specifically hypercholesterolemia
17.0 Demonstrate an understanding of bacteria as a cause for infectious diseases
18.0 Investigate the basic and complex commonalities between all humans
19.0 Explore the individual differences in tissues and cells between humans and its significance to individual identity
20.0 Investigate the significance of DNA in relation to individual identity
21.0 Investigate the role the brain plays in the communication system of the human body
22.0 Determine how electrical communication works in the body and its effects
23.0 Determine how chemical communication works in the body and its effects
24.0 Investigate how the human body communicates with the outside world
25.0 Describe the role food plays in the conversion and use of energy in the body
26.0 Describe the role that oxygen plays in the conversion and use of energy in the body
27.0 Describe the role that water plays in the conversion and use of energy in the body
28.0 Demonstrate an understanding of how joints directly contribute to the movement of the human body
29.0 Demonstrate an understanding of how muscles directly contribute to the movement of the human body
30.0 Demonstrate an understanding of how blood flow aides in the movement of the substances through the human body
31.0 Using knowledge of power and movement in the human body, describe how the body fuels and responds to exercise
32.0 Describe the composition of skin and how the integumentary system serves as a protection for the human body
33.0 Describe the composition of bones and how the skeletal system serves as a protection for the human body
34.0 Describe the composition the immune system and how it serves as a protection for the human body
35.0 Examine the connection between all of the human body systems and how these systems work together to maintain health and homeostasis

36.0 Investigate the variety of interventions involved in the prevention, diagnosis and treatment of infectious disease
37.0 Explore the factors that contribute to the effectiveness of antibiotics against infectious diseases
38.0 Investigate hearing loss as a detrimental effect of infectious disease
39.0 Explore vaccination as a mode of infectious disease prevention
40.0 Investigate the available types of genetic testing/screening and their ethical implications
41.0 Examine the current reproductive technology and discuss medical interventions of the future
42.0 Explore the diagnostic techniques and technology being used to better diagnose and understand cancer
43.0 Explore the potential risk factors associated with cancer and the various situations which cause changes to DNA
44.0 Investigate the treatments and therapies available to treat cancer and its physical, mental and emotional effects
45.0 Explore the future of medical interventions for cancer
46.0 Explore the medical implications of proteins produced and purified in a laboratory setting
47.0 Investigate the causes and treatments for kidney failure
48.0 Explore the process, policies and procedures involved for organ transplantation
49.0 Investigate how advances in medical knowledge and technology can aid in building a better human body for the future
50.0 Investigate biomedical problems related to clinical care by designing an effective emergency care center
51.0 Explore the variety of research study designs available and investigate how to set up and conduct valid and reliable studies
52.0 Explore the process, knowledge and skills required to design a medical innovation
53.0 Explore biomedical innovation through investigating water contamination
54.0 Evaluate a public health issue and combat the problem using knowledge of epidemiology, disease diagnosis and public health resources
55.0 Understand medical research and the process of writing a scientific grant
56.0 (Optional) Use modern molecular biology techniques to clone and transfer DNA
57.0 (Optional) Assuming the role of a medical expert, investigate a mysterious death using forensics autopsy techniques
58.0 (Optional) Students work independently in an area of interest in the biomedical sciences and outline milestones in a long-term open ended problem using skills learned throughout the program to complete the project

Florida Department of Education
Student Performance Standards

Course Title: **Principles of Biomedical Science**
Course Number: **8708110**
Course Credit: **1**

Course Description:

Students investigate the human body systems and various health conditions. This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the scientific foundation for subsequent courses. Students are introduced to human physiology, medicine, research processes and bioinformatics. Key biological concepts including homeostasis, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops, and the relationship of structure to function are also incorporated.

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Equipment and supplies will be provided to enhance these hands-on experiences for students. A minimum of 20% of classroom time will be dedicated to laboratory experiences.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
01.0	Demonstrate an understanding of the nature of science and how to correctly use appropriate scientific equipment–The student will be able to:		SC.912.L.14.4 SC.912.N.2.1 SC.912.N.2.2 SC.912.N.3.1 SC.912.N.3.4
01.01	Identify what is science, what clearly is not science and what can superficially resembles science but does not meet the criteria for science.	LAFS.910.RI.2.4 LAFS.910.W.3.7	
01.02	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.	LAFS.910.RI.2.4 LAFS.910.W.3.7	
01.03	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial	LAFS.910.W.3.7 LAFS.910.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
	range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.		
01.04	Practice and demonstrate how to properly and safely use a microscope.	LAFS.910.SL.1.1 LAFS.910.RI.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
02.0	Describe the importance of professional ethics and legal responsibilities. –The student will be able to:		
02.01	Discuss of the basics of the legal framework of the healthcare occupations	LAFS.910.SL.1.1 LAFS.910.RI.3.9	
02.02	Explain common practices that could result in malpractice, liability and/or negligence.	LAFS.910.SL.1.1 LAFS.910.W.1.2	
02.03	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).	LAFS.910.RI.1.1 LAFS.910.RI.3.9 LAFS.910.SL.1.1 LAFS.910.W.2.4	
02.04	Describe the purpose of Informed Consent from the patient and provider perspective.	LAFS.910.SL.1.1	
02.05	Differentiate between legal and ethical issues in healthcare.	LAFS.910.SL.1.1	
02.06	Evaluate and justify decisions based on ethical reasoning.	LAFS.910.SL.1.1 LAFS.910.RI.3.8	
02.07	Identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace.	LAFS.910.SL.1.1	HE.912.C.1.3
03.0	Understand the structure and functions of the major human body systems, the organs making up these systems and the interconnections between body systems. –The student will be able to:		SC.912.L.14.2 SC.912.L.14.4 SC.912.L.14.11 SC.912.L.14.13 SC.912.L.14.16 SC.912.L.14.20 SC.912.L.14.26 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.42

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
			SC.912.L.14.44 SC.912.L.14.46 SC.912.L.14.51 SC.912.L.14.52 SC.912.L.16.3
03.01	Identify the major body systems and their functions.	LAFS.910.SL.2.4 LAFS.910.L.3.4C,D LAFS.910.W.2.4 LAFS.910.RI.2.4	
03.02	Demonstrate an understanding of how body systems work together to maintain good health.	LAFS.910.SL.2.4 LAFS.910.L.3.4C,D LAFS.910.W.2.4 LAFS.910.RI.2.4	
03.03	Identify and locate specific organs that comprise the major human body systems.	LAFS.910.SL.2.4 LAFS.910.L.3.4C,D LAFS.910.W.2.4 LAFS.910.RI.2.4	
03.04	Describe the general structure and function of each of these organs.	LAFS.910.SL.2.4 LAFS.910.L.3.4C,D LAFS.910.W.2.4 LAFS.910.RI.2.4	
03.05	Describe how parts of the human body systems work together to perform the job of the entire system.	LAFS.910.SL.2.4 LAFS.910.L.3.4C,D LAFS.910.W.2.4 LAFS.910.W.2.6 LAFS.910.RI.2.4	
03.06	Identify common diseases and conditions that can disrupt the functioning of cells, tissues and organs within the body.	LAFS.910.SL.1.1 LAFS.910.SL.2.4 LAFS.910.W.2.4 LAFS.910.RI.2.4 LAFS.910.L.3.4C,D	
04.0	Understand how determining the cause of death involves the investigation of many aspects of the medical condition of the victim. –The student will be able to:		
04.01	Describe how evidence at a crime scene, such as blood, hair, fingerprints, and shoeprints can help forensic investigators determine what might have occurred and help identify or exonerate potential suspects.		
04.02	Understand that evidence can be seen post-mortem through medical examination and interpret information from an autopsy report to predict the manner of death.	LAFS.910.RI.1.1 LAFS.910.RI.2.4 LAFS.910.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
04.03	Recognize that bloodstain patterns left at a crime scene can help investigators establish the events that took place during the crime.		
04.04	Analyze key information gathered at a simulated crime scene.		
04.05	Describe some of the major aspects involved in determining cause of death, including the gross physical condition of a victim, the need for internal and external examination of the body, and the need for chemical and microscopic analysis of tissues and body fluids.	LAFS.910.RI.1.1 LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.W.1.2 LAFS.910.W.2.4	
04.06	Discuss how the use of medical terminology and the involvement of many medical professionals are vital to the investigation process.	LAFS.910.SL.1.1	
05.0	Explore various careers related to biomedical science and its impact. –The student will be able to:		
05.01	Discuss and describe the role of a variety of biomedical sciences professionals that are involved in determining the cause of death.		
05.02	Describe the role of a certified medical examiner in reducing the chance of death to those on the road (Truckers-DOT/FMSCA), in the air (AC Pilots), and in the water (Boat Captains).	LAFS.910.W.3.7 LAFS.910.SL.1.2	
05.03	Compare and contrast the role of the medical examiner and the coroner.		
05.04	Investigate and discuss a variety of biomedical sciences careers that relate to the prevention, diagnosis, and treatment of both cardiovascular and infectious disease.		
06.0	Understand and describe the importance of the circulatory system by examining the structure and function of the heart. –The student will be able to:		SC.912.L.14.36 SC.912.L.14.37 SC.912.L.14.40 SC.912.L.14.52
06.01	Describe and demonstrate how a simple and a two-chambered pump works.	LAFS.910.L.3.6 LAFS.910.SL.1.1B LAFS.910.SL.1.2 LAFS.910.W.3.7	
06.02	Understand and discuss that the human heart is a four-chambered living pump that provides the force needed to transport blood, both oxygenated and un-oxygenated, throughout the body without mixing the two types of blood.	LAFS.910.SL.1.1	
06.03	Identify and describe the gross structures and functions of the heart.	LAFS.910.W.1.2 MAFS.912.G-GMD.2.4	
06.04	Understand how a heartbeat is caused by the contraction of cardiac muscle cells that result in the movement of blood from the heart to the arteries and to the whole body.	LAFS.910.W.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
06.05	Calculate heart rate as the number of heart contractions per unit of time, most commonly done as beats per minute.	MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1	
06.06	Explain how blood pressure is a measure of the force put on the vascular walls by the blood as it is pushed by the cardiac muscles through the vascular system.	LAFS.910.SL.1.1 MAFS.912.A-CED.1.1 MAFS.912.A-CED.1.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.F-LE.2.5	
06.07	Describe the flow of electricity through the heart and the result of this electrical pattern.	LAFS.910.SL.1.1. LAFS.910.W.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
06.08	Indicate how heart rate, blood pressure and EKG can be used to measure a person's medical condition.	LAFS.910.W.2.4 MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1	
06.09	Describe how selected internal and external factors such as being frightened, exercise, exposure to cold and rest affect heart function including heart rate, blood pressure and EKG.	LAFS.910.SL.1.1B LAFS.910.W.1.2 LAFS.910.W.2.6 LAFS.910.W.3.7 LAFS.910.W.3.8	
06.10	Demonstrate the importance of technology in biomedical sciences by using software and equipment to collect and analyze cardiovascular data.		
07.0	Understand and describe the importance of blood in relation to the circulatory system and the human body. –The student will be able to:		SC.912.L.14.4 SC.912.L.14.11 SC.912.L.14.34
07.01	Explain that blood is a liquid connective tissue composed of red cells, white cells and platelets that are suspended in liquid plasma.	LAFS.910.W.2.4	
07.02	Compare and contrast the functions of red cells, white cells, platelets and erythrocytes	LAFS.910.W.2.4 LAFS.910.SL.1.1	
07.03	Recognize that blood is a major transport for many substances in the body that must be replenished throughout life including hormones, gases, molecules and nutrients.		
07.04	Examine using a microscope and sketch red and white blood cells as well as various types of human tissue.	LAFS.910.W.2.4 MAFS.912.N-Q.1.3	
08.0	Demonstrate an understanding of how food and water are essential to the health of the human body.–The student will be able to:		SC.912.L.18.1 SC.912.L.18.2 SC.912.L.18.10 SC.912.P.8.2 SC.912.P.8.4

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
			SC.912.P.8.6
	08.01 Identify the different categories used in a food label and what they mean in relation of the nutrition of the body.	LAFS.910.SL.1.2A,B,D,E,F MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1	HE.912.C.1.3
	08.02 Compare and contrast the recommended daily values for food groups, minerals and vitamins.	LAFS.910.W.2.4 LAFS.910.SL.1.1 MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1	
	08.03 Describe that food is made of molecules and macromolecules which in turn are made of atoms.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
	08.04 Describe the structure and function of atoms.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
	08.05 Describe how homeostasis depends upon many different chemical reactions and large organic molecules.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
	08.06 Describe the role of chemical bonding in chemical reactions and transfer of energy.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
09.0	Describe how food provides nutrients for the body to help maintain homeostasis.–The student will be able to:		SC.912.L.18.1 SC.912.L.18.2 SC.912.L.18.3 SC.912.N.3.5 SC.912.P.8.2 SC.912.P.8.7
	09.01 Describe the function of macromolecules in relation to the breakdown of food and the human body.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
	09.02 Differentiate between the four classes of macromolecules in terms of their structure and function and build a model of each.	LAFS.910.W.2.4	
	09.03 Explain the role of indicators in identifying chemical compounds.	LAFS.910.W.1.2 LAFS.910.SL.1.1	
	09.04 Describe different foods that contain each kind of nutrients.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
10.0	Describe and discuss the causes, symptoms, treatments and effects of diabetes and the impact that this specific disease has on the human body and human lifestyle.–The student will be able to:		
	10.01 Explain how many systems, living or non-living, operate using feedback mechanisms and that information put into a system causes a reaction within the system.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
	10.02 Understand that there are two different types of feedback systems, positive and negative.	LAFS.910.W.2.4 LAFS.910.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		LAFS.910.SL.2.4 LAFS.910.W.3.7 LAFS.910.W.3.8	
10.03	Summarize how insulin regulates the transfer of glucose into the body cells and its role as part of the feedback system.	LAFS.910.W.2.4 LAFS.910.W.3.7 LAFS.910.W.3.8 LAFS.910.SL.1.1	
10.04	Compare Type 1 & Type 2 Diabetes.		
10.05	Explain the major causes, symptoms, complications effects and treatments of both Type 1 and Type 2 diabetes.	LAFS.910.W.2.4 LAFS.910.W.3.7 LAFS.910.SL.1.1	
10.06	Understand and describe the dietary requirements and restrictions of diabetics of both types and how these changes can impact one's lifestyle in order to avoid severe and life threatening diabetic emergencies.	LAFS.910.W.1.2 LAFS.910.W.3.7	
10.07	Describe healthy behaviors and actions that could help prevent the onset of Type 2 diabetes.	LAFS.910.W.2.4 LAFS.910.SL.1.1	HE.912.C.1.3
10.08	Investigate and describe the roles of Biomedical Sciences professions related to the treatment and prevention of Diabetes.		
11.0	Investigate the significance of DNA and Chromosomes in the human body.–The student will be able to:		SC.912.L.16.3 SC.912.L.16.9 SC.912.L.18.4
11.01	Describe the Structure and function of a chromosome.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
11.02	Describe the structure and function of deoxyribonucleic acid (DNA).	LAFS.910.W.2.4 LAFS.910.SL.1.1	
11.03	Explain the relationship between chromosomes, DNA and Genes.	LAFS.910.W.2.4 LAFS.910.SL.1.1 LAFS.910.W.3.7	
11.04	Interpret the structure of a chromosome in relation to the size of a cell and the amount of DNA it contains.	LAFS.910.RI.1.1 LAFS.910.W.2.4	
11.05	Explain the interactions between nucleotides using DNA models.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
11.06	Demonstrate how the genetic information in DNA molecules provides instructions for creating protein molecules and that the structure of DNA is basically the same for all living organisms.	LAFS.910.W.1.2F LAFS.910.W.2.4 LAFS.910.SL.1.1	
11.07	Describe the importance of nucleotides in the process of creating protein molecules with the information from DNA.	LAFS.910.W.2.4, LAFS.910.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
11.08	Distinguish between the different levels of proteins and understand that a protein's shape can change depending on its environment.	LAFS.910.W.1.2F LAFS.910.W.2.4 LAFS.910.SL.1.1B,C	
11.09	Explain how the sequence of amino acids in a protein determines the protein's structure.	LAFS.910.W.2.4	
11.10	Describe the appropriate laboratory methods to isolate DNA from plant and animal cells.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
11.11	Explain how restriction enzymes cut DNA.		
11.12	Describe how gel electrophoresis separates DNA fragments.		
11.13	Recognize that gel electrophoresis can be used to examine DNA differences between individuals.		
12.0	Describe factors that contribute to sickle cell disease and the impact it can have on the human body.–The student will be able to:		SC.912.L.16.8 SC.912.L.17.1
12.01	Describe the difference between the appearance of normal and sickle cell blood.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
12.02	Describe the function of hemoglobin found in red cells.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
12.03	Describe affinity of CO v. O2 to the Hgb of a red blood cell and the practical importance of avoiding CO (auto, home heating systems, engines for pumps brought inside).		
12.04	Demonstrate how changes to the structure of a protein can change its ability to work properly.	LAFS.910.W.2.4	
12.05	Compare and contrast the differences between a normal and sickle red blood cell.	LAFS.910.W.2.4 LAFS.910.W.3.7	
12.06	List the major symptoms and complications of sickle cell disease.	LAFS.910.W.2.4 LAFS.910.W.3.7	
12.07	Research the occurrence of sickle cell disease between different countries around the world and investigate the reasons for the differences in incidence rates.	LAFS.910.W.2.4 LAFS.910.W.3.7 MAFS.912.S-CP.1.5	
12.08	Investigate and discuss biomedical sciences careers responsible for the diagnosis and treatment of Sickle Cell Disease.		
13.0	Understand the factors involved in heredity and mutation in relation to sickle cell disease.–The student will be able to:		SC.912.L.15.13 SC.912.L.15.15 SC.912.L.16.1 SC.912.L.16.2 SC.912.L.16.16 SC.912.L.16.17 SC.912.L.17.5

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
13.01	Describe that chromosomes each carry numerous genes that are passed along from parents to offspring through reproductive cells.	LAFS.910.SL.1.1 LAFS.910.W.2.4 MAFS.912.S-CP.2.8	HE.912.C.1.7
13.02	Identify and be able to use a karyotype to identify multiploidy and sex in an individual.	LAFS.910.W.2.4	
13.03	Compare and contrast between chromosomal and gene mutations.	LAFS.910.W.2.4 LAFS.910.W.3.7	
13.04	Explain the results of insertion and deletion gene mutations and the effects that they have on the corresponding proteins produced by the gene. Or such as b-globin protein and their associations with Sickle Cell Disease.	LAFS.910.SL.1.1B	HE.912.C.1.7
13.05	Describe the process of meiosis, including independent assortment.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
13.06	Explain how reduction division results in the formation of haploid gametes.	LAFS.910.W.3.7	
13.07	Compare and contrast mitosis and meiosis and relate to the processes of sexual reproduction and their consequences for genetic variation.	LAFS.910.W.2.4 LAFS.910.W.3.7	
13.08	Analyze genotype to determine phenotype.		
13.09	Analyze the major symptoms and complications of the sickle cell trait in relation to sickle cell disease.	LAFS.910.W.2.4 LAFS.910.W.3.7	
13.10	Explain how anemia and lack of energy in a cell are related.	LAFS.910.W.2.4 LAFS.910.W.3.7	
13.11	Use appropriate research techniques to obtain information on the symptoms and complications of the sickle cell trait and disease.	LAFS.910.W.2.4 LAFS.910.W.3.7	
13.12	Create and analyze pedigree charts to illustrate passage of a trait through at least three generations and calculate the probability of a trait appearing in offspring.	LAFS.910.W.2.4 LAFS.910.SL.2.4 MAFS.912.SCP.2.8 MAFS.912.S-CP.2.7	
14.0	Examine how changes in chromosomes or genes can cause disease/chromosomal abnormalities.–The student will be able to:		SC.912.L.16.4
14.01	Define, identify and analyze karyotypes to determine multiploidy and sex.	LAFS.910.W.2.4	
14.02	Explain how karyotypes are used to diagnose certain medical conditions such as Down Syndrome.	LAFS.910.W.2.4	
14.03	Explain how the substitution of a single amino acid can change a protein and indicate how it may change interactions with other proteins.	LAFS.910.W.2.4	
14.04	Identify the structure and function of chromosomes and their role in individual traits of humans.		
14.05	Explain how specific mutations lead to specified genetic diseases.	LAFS.910.W.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
15.0	Demonstrate an understanding of the function of cholesterol in the body and its role in heart disease–The student will be able to:		SC.912.L.18.1 SC.912.L.18.3 SC.912.L.18.4
15.01	Explain that there are different types of lipid molecules and that they have different physical properties and functions.	LAFS.910.SL.1.1 LAFS.910.W.2.4 LAFS.910.W.3.7	
15.02	Describe how the type of bond between the carbon atoms in a fatty acid determines whether it is saturated or unsaturated with hydrogen atoms.	LAFS.910.W.2.4 LAFS.910.W.3.7	
15.03	Explain that cholesterol is transported in the blood by protein complexes called high density lipoprotein (HDL) and low density lipoprotein (LDL) and the role each of them play in the body.	LAFS.910.W.2.4 LAFS.910.W.3.7 LAFS.910.SL.2.4 LAFS.910.SL.2.5	
15.04	Describe how the measurement of these complexes affects a person's risk for heart disease.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
15.05	Describe the function of an angiogram in diagnosing blocked vessels and list medical interventions to treat blocked vessels.		
15.06	Discuss risk factors for heart disease.		HE.912.C.1.5
16.0	Describe molecular biological techniques for diagnosing diseases, specifically hypercholesterolemia.–The student will be able to:		SC.912.L.16.5 SC.912.L.16.6 SC.912.L.16.11 SC.912.L.16.12
16.01	Explain how the processes of polymerase chain reaction (PCR), and DNA gel electrophoresis can be used in the diagnosis of genetic diseases and disorders such as the familial hypercholesterolemia.	LAFS.910.W.2.4 LAFS.910.W.3.7	
16.02	Explain using proper laboratory techniques how to separate DNA fragments by gel electrophoresis.	LAFS.910.W.2.4	
16.03	Analyze the results of a gel electrophoresis to correctly diagnose the presence of the familial hypercholesterolemia mutation.	LAFS.910.W.1.2A, B, D, E, F MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
17.0	Demonstrate an understanding of bacteria as a cause for infectious diseases.–The student will be able to:		SC.912.L.14.52 SC.912.L.14.6
17.01	Identify the basic structures of a bacterial cell.		
17.02	Explain that there are different types of bacteria and some cause disease while some do not.	LAFS.910.W.2.4 LAFS.910.W.3.7	
17.03	Classify bacteria by shape, metabolism and reaction to gram staining.	LAFS.910.W.2.4 LAFS.910.W.3.7	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
17.04	Understand how antibiotics are used to treat infections and that their effectiveness depends on the type of bacteria that has caused the infection.		
17.05	Explain that overuse of antibiotics can cause resistance in bacteria and what that means to human health.	LAFS.910.W.2.4	
17.06	Describe the immune response in relation to the introduction of antigens.		
17.07	Isolate and examine bacterial colonies using aseptic techniques.		
17.08	Communicate effectively the symptoms, prevalence, and treatment for bacterial infection as well as the global and social impact of an infectious disease that is caused by bacteria.	LAFS.910.SL.2.4 LAFS.910.W.2.4 LAFS.910.W.2.6 LAFS.910.W.3.7 MAFS.912.S-CP.1.5	SC.912.L.14.6 HE.912.C.1.3 HE.912.C.1.5

Florida Department of Education
Student Performance Standards

Course Title: **Human Body Systems**
Course Number: **8708120**
Course Credit: **1**

Course Description:

Students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Equipment and supplies will be provided to enhance these hands-on experiences for students. A minimum of 20% of classroom time will be dedicated to laboratory experiences.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci/HE
18.0 Investigate the basic and complex commonalities between all humans. --The student will be able to:		SC.912.L.14.4 SC.912.L.14.16 SC.912.L.14.20 SC.912.L.14.26 SC.912.L.14.28 SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.32 SC.912.L.14.33 SC.912.L.14.42 SC.912.L.14.44 SC.912.L.14.46 SC.912.L.14.51 SC.912.L.14.52

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
			SC.912.L.16.13 SC.912.N.1.4
18.01	List the major organs within each human body system and the functions of the different human body systems.	LAFS.910.SL.1.1 LAFS.910.W.1.2 LAFS.910.W.2.4 LAFS.910.L.2.4A,C,D	HE.912.C.1.5
18.02	Describe how multiple body systems are interconnected.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
18.03	Describe how the interconnections and interactions of multiple body systems are necessary for life.	LAFS.910.W.1.2F LAFS.910.W.3.8 LAFS.910.SL.1.1A,C,D	
18.04	Explain how directional terms and regional terms can be used to identify locations on the body.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
18.05	Demonstrate key directional terms on a model of the human body.	LAFS.910.L.3.4 LAFS.910.SL.1.1B LAFS.910.W.1.2F	
18.06	Apply knowledge of human body systems to indicate how damage to one system can impact function in another system.	LAFS.910.W.1.2F LAFS.910.SL.1.1	
18.07	Discuss similarities between all humans and relate this discussion to human identity.	LAFS.910.SL.1.1 LAFS.910.W.4.10	
18.08	Reflect on student's own identity.	LAFS.910.W.4.10	
19.0	Explore the individual differences in tissues and cells between humans and its significance to individual identity. –The student will be able to:		SC.912.L.14.11 SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.14 SC.912.L.14.15 SC.912.L.16.2
19.01	Describe the differences in the appearance of epithelial and connective tissues.	LAFS.910.L.3.4 LAFS.910.RI.3.7	
19.02	Explain the basic structure and function of the skeletal system.	LAFS.910.L.3.4 LAFS.910.W.2.4	
19.03	Model tissue placement in the face around the eyes and mouth.		
19.04	Interpret bone markings, bone landmarks and bone measurements to provide information about gender, race, ethnicity and height.	LAFS.910.W.1.2F MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.1	
19.05	Use mathematical calculations to predict height from the length of a bone.	MAFS.912.S-ID.3.7 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		MAFS.912.G-MG.1.3 MAFS.912.F-IF.2.6 MAFS.912.F-LE.2.5	
20.0	Investigate the significance of DNA in relation to individual identity. –The student will be able to:		SC.912.L.16.9 SC.912.L.16.10 SC.912.N.1.5 SC.912.N.1.7 SC.912.N.4.2
20.01	Explain in general how restriction enzymes cut DNA.	LAFS.910.SL.1.1 LAFS.910.W.3.8	
20.02	Explain how gel electrophoresis separates DNA fragments by size.	LAFS.910.SL.1.1 LAFS.910.W.1.2B MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
20.03	Interpret gel electrophoresis results to solve a missing person's case.	LAFS.910.W.1.2F	
20.04	Define biometrics and the ethical issues associated with it.	LAFS.910.L.3.4 LAFS.910.SL.1.3	
20.05	Describe the way in which characteristics such as fingerprints, facial features and retinal patterns can be used to establish identity.	LAFS.910.SL.1.1 LAFS.910.W.3.8	
20.06	Design a comprehensive security plan for a real-world situation.	LAFS.910.W.2.5 LAFS.910.W.2.6 LAFS.910.RI.3.7 LAFS.910.L.1.1	
20.07	Read an interview with a forensic anthropologist and write an interview with a DNA analyst.	LAFS.910.RI.2.5 LAFS.910.RI.2.6 LAFS.910.SL.2.4 LAFS.910.W.1.2B	
21.0	Investigate the role the brain plays in the communication system of the human body. – The student will be able to:		SC.912.L. 14.11 SC.912.L. 14.21 SC.912.L. 14.22 SC.912.L. 14.24 SC.912.L. 14.25 SC.912.L. 14.26 SC.912.L. 14.27 SC.912.L. 14.28
21.01	Describe the general structure and function of the central nervous system.	LAFS.910.L.3.4 LAFS.910.W.2.4	
21.02	Interpret how a breakdown in communication would impact the function of the human body.	LAFS.910.W.1.2F LAFS.910.SL.1.1B	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
21.03	Determine the region of the brain responsible for specific actions, emotions, or functions of humans.	LAFS.910.W.1.2B LAFS.910.W.3.7 LAFS.910.L.3.4	
21.04	Apply knowledge of brain function to determine the parts of the brain used to complete a list of daily activities.	LAFS.910.W.1.2B,F LAFS.910.SL1.1A	
22.0	Determine how electrical communication works in the body and its effects. –The student will be able to:		SC.912.L.14.11 SC.912.L.14.21 SC.912.L.14.22 SC.912.L.14.24 SC.912.L.14.25 SC.912.L.16.10 SC.912.N.1.1
22.01	Explain the basics of how electrical signals are created and transmitted in the human body.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
22.02	Explain the roles of ions in creating electrical impulses in the human body.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
22.03	Explain in general terms how neurotransmitters help propagate electrical impulses.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
22.04	Describe neuron structure and function.	LAFS.910.L.3.4 LAFS.910.W.3.7	
	22.04.01 Discuss the generalities of ascending and descending pathways of the CNS.	LAFS.910.SL.1.1	
22.05	Understand how reflex versus reaction time applies to pathways of processing in the brain.	LAFS.910.SL.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.2 MAFS.912.S-IC.2.5 MAFS.912.S-IC.2.6	
22.06	Demonstrate an understanding of how a serious nervous system disorder impacts quality of life.	LAFS.910.SL.1.1B LAFS.910.L.3.4 LAFS.910.W.1.2F	
22.07	Research and report on biomedical professionals who can improve the quality of life for those coping with nervous system dysfunction.	LAFS.910.W.3.8 LAFS.910.RI.1.1	
22.08	Using data acquisition software to complete a laboratory investigation on the reflexes in the human body and reaction time.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.910.L.3.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.2	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		MAFS.912.S-IC.2.5 MAFS.912.S-IC.2.6	
23.0	Determine how chemical communication works in the body and its effects. –The student will be able to:		SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.32 SC.912.N.1.1 SC.912.N.1.6
23.01	Explain the basics of how hormones interact with target cells.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
23.02	Explain the difference between endocrine and exocrine glands as well as protein/peptide and steroid hormones.	LAFS.910.L.3.4 LAFS.910.W.1.2D,F	
23.03	Use the internet to research and use the research to interpret the symptoms and physical characteristics of a given patient to determine an endocrine system malfunction.	LAFS.910.L.3.4 LAFS.910.W.1.2F	
23.04	Explain in general how hormones contribute to maintain homeostasis.	LAFS.910.L.3.4 LAFS.910.W.1.2F	
23.05	Understand how a team of medical professionals use an evidence board to help in solving a medical case.	LAFS.910.SL.1.1B,D LAFS.910.W.2.4	
24.0	Investigate how the human body communicates with the outside world. –The student will be able to:		SC.912.L.14.50
24.01	Describe the structures and function of the eye.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
24.02	Describe how the eye and the brain work together to allow a person to see.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
24.03	Explain visual perception, including visual acuity, depth perception, peripheral vision, color vision, and the interpretation of optical illusions.	LAFS.910.L.3.4 LAFS.910.W.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
24.04	Discuss how a medical examiner uses a Snellen Chart at 20 feet with optical occluder (cover) to isolate each eye for individual sight.	LAFS.910.L.3.4 LAFS.910.W.2.4	
24.05	Interpret results from vision testing.	LAFS.910.W.1.2F	
24.06	Understand that different types of lenses will refocus light and correct problems with vision.	LAFS.910.W.2.4 LAFS.910.SL.1.2	
24.07	Understand the difference between an optometrist, an ophthalmologist and an optician.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
25.0	Describe the role food plays in the conversion and use of energy in the body. –The student will be able to:		SC.912.L.14.46 SC.912.L.18.10 SC.912.L.18.11 SC.912.L.14.34 SC.912.L.14.43 SC.912.L.14.44 SC.912.L.14.46 SC.912.L. 17.13 SC.912.N.1.1 SC.912.N.3.5
25.01	Describe the human body systems that absorb process and distribute oxygen, water and food.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
25.02	Describe the structure and function of organs in the human digestive system.	LAFS.910.L.3.4 LAFS.910.W.3.7	
25.03	Explain that energy is stored and released from ATP.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
25.04	Assess overall health through analysis of calories consumed and calories expended in daily activities.	LAFS.910.RI.1.2	
25.05	Explain the structure and function of, enzymes and co enzymes and how they all work together.	LAFS.910.W.2.4	
25.06	Explain the importance of enzymes on maintaining homeostasis in the human body.	LAFS.910.W.2.4 LAFS.910.SL.1.1	
25.07	Demonstrate an understanding of both lock and key models and induced fit models of enzyme function.	LAFS.910.W.2.4 LAFS.910.W.3.7 LAFS.910.RI.2.4 LAFS.910.L.3.4C MAFS.912.N-Q.1.2	
25.08	Interpret enzyme function in the digestive system through laboratory experiments.	LAFS.910.W.1.2F LAFS.910.SL.1.1B	
25.09	Build a model of the human digestive system		
25.10	Design and perform an experiment to determine optimal conditions for digestive enzyme reactions.	LAFS.910.SL.1.1B LAFS.910.L.3.4 LAFS.910.W.1.2	
26.0	Describe the role that oxygen plays in the conversion and use of energy in the body. – The student will be able to:		SC.912.L.14.43 SC.912.L.14.44
26.01	Describe the structure and function of the human respiratory system.	LAFS.910.L.3.4 LAFS.910.W.3.7	
26.02	Explain that oxygen and carbon dioxide are exchanged in the lungs and where	LAFS.910.SL.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
	this occurs.	LAFS.910.W.2.4	
26.03	Explain the transport of oxygen to all cells in the body through the close connection between the respiratory and cardiovascular systems.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
26.04	Interpret data charts and graphs to determine tidal volume, aspiratory reserve volume, expiratory reserve volume, and vital capacity of lungs.	LAFS.910.W.1.2F LAFS.910.SL.1.1B MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.G-MG.1.2	
26.05	Understand the difference between short term control and long term control via medication and that there are different administration routes for each.	LAFS.910.W.3.7 LAFS.910.L.3.4 LAFS.910.W.1.2B MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.G-MG.1.2	
26.06	Explore the education and career path of a respiratory therapist.	LAFS.910.W.3.7	
27.0	Describe the role that water plays in the conversion and use of energy in the body. – The student will be able to:		SC.912.L.14.47 SC.912.L.14.48 SC.912.L.18.12 SC.912.N.3.1 SC.912.N.3.5
27.01	Describe the structure and function of the human urinary system.	LAFS.910.L.3.4 LAFS.910.W.3.7	
27.02	Describe the structure and function of the kidney.	LAFS.910.L.3.4 LAFS.910.W.3.7 MAFS.912.G-GMD.2.4	
27.03	Describe and illustrate the movement of fluids and ions in and out of the various parts of the nephron.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
27.04	Understand that aldosterone and ADH (anti-diuretic hormone) effect the nephron and overall water balance.	LAFS.910.SL.1.1 LAFS.910.W.1.2F	
27.05	Illustrate the composition of normal blood and normal urine.		
27.06	Build a model of the urinary system.	MAFS.912.G-GMD.2.4	
27.07	Test simulated urine sample and apply knowledge to diagnose disease.	LAFS.910.L.3.4 LAFS.910.W.1.2F	HE.912.C.1.5
27.08	Analyze the use of urinalysis as a medical intervention.	LAFS.910.W.1.2F LAFS.910.RI.2.4	
28.0	Demonstrate an understanding of how joints directly contribute to the movement of the		SC.912.L.14.12

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
	human body. –The student will be able to:		SC.912.N.1.1
	28.01 Describe the structure and function of the three types of human body joints.	LAFS.910.L.3.4 LAFS.910.SL.1.1 LAFS.910.RI.2.4	
	28.02 Describe using appropriate vocabulary, the motion of bones in the different joint types.	LAFS.910.L.3.4 LAFS.910.SL.1.1 LAFS.910.RI.2.4	
	28.03 Identify range of motion measurements to specific joint actions and develop a plan to measure the range of motion.	LAFS.910.W.1.2A,B MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
	28.04 Compare the structure of a cow elbow to a human elbow.	LAFS.910.W.1.2F	
	28.05 Discuss differences in an individual's range of motion and the reason for these differences.	LAFS.910.SL.1.1 LAFS.910.W.4.10	
	28.06 Discuss ways to improve joint flexibility such as stretching and other lifestyle modifications.	LAFS.910.SL.1.1 LAFS.910.W.4.10	
29.0	Demonstrate an understanding of how muscles directly contribute to the movement of the human body. –The student will be able to:		SC.912.L.14.16 SC.912.L.14.17 SC.912.L.14.18 SC.912.L.14.19 SC.912.L.14.20 SC.912.L.14.22 SC.912.L.14.23
	29.01 Describe the structure and function of the three types of muscle tissue.	LAFS.910.L.3.4 LAFS.910.SL.1.1 LAFS.910.RI.2.4	
	29.02 Identify specific muscles by deciphering muscle names.		
	29.03 Describe the requirements for muscle contraction.	LAFS.910.L.3.4 LAFS.910.RI.2.4 LAFS.910.SL.1.1	
	29.04 Explain the sliding filament mechanism of muscle contraction.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
	29.05 Explain the connection between nerves and muscle.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
	29.06 Interpret muscle function by examining structure and attachment to bone.	LAFS.910.W.1.2F	
	29.07 Build a model of a muscle group.	MAFS.912.G-GMD.2.4	
	29.08 By using the sliding filament theory, explain why rigor mortis occurs.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
	29.09 Discuss how muscle contributes to human identity.	LAFS.910.SL.1.1 LAFS.910.W.4.10	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
	29.10 Identify some of the many roles of calcium in the body.	LAFS.910.W.1.2A,B	
30.0	Demonstrate an understanding of how blood flow aides in the movement of the substances through the human body. –The student will be able to:		SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.36 SC.912.L.14.37 SC.912.L.14.38 SC.912.L.14.39 SC.912.L.14.40 SC.912.N.1.1
	30.01 Explain the relationship between the heart and lungs and the path of blood flow through these organs.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
	30.02 Define pulse and blood pressure, and locate pulse points on the body.	LAFS.910.L.3.4	
	30.03 Identify major arteries and veins and specify the body region each supplies.	LAFS.910.L.3.4 LAFS.910.W.2.4	
	30.04 Interpret ankle brachial index (ABI) to determine possible blood vessel blockages.	LAFS.910.W.1.2F LAFS.910.SL.1.1B MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
	30.05 Understand the relationship between the amount of blood pumped by the heart, through analysis of cardiac output values, and the health of other body organs and systems.	LAFS.910.W.1.2F LAFS.910.RI.2.4 MAFS.912.S-IC.2.6 MAFS.912.S-IC.1.2 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.F-LE.2.5 MAFS.912.A-CED.1.1 MAFS.912.A-CED.1.4	
	30.06 Explore peripheral artery disease through the analysis of patient symptoms and diagnostic test results.	LAFS.910.RI.2.4 LAFS.910.L.3.4 LAFS.910.SL.1.1B	HE.912.C.1.5
	30.07 Explain the structure and function of veins and explain how varicose veins form.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
	30.08 Build a model of the major circulatory routes.	MAFS.912.G-GMD.2.4	
	30.09 Analyze self-risk for cardiovascular disease.	LAFS.910.W.1.3A,E	HE.912.C.1.5
31.0	Using knowledge of power and movement in the human body, describe how the body fuels and responds to exercise. –The student will be able to:		SC.912.L.18.5 SC.912.L.18.6 SC.912.L.18.8 SC.912.L.18.10

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
			SC.912.N.1.1
31.01	Explain that the human body generates ATP for energy estimate and the time period that this energy will last.	LAFS.910.RI.2.4 LAFS.910.L.3.4 LAFS.910.SL.1.1	
31.02	Assess muscle fatigue through interpretation of EMG and grip strength.	LAFS.910.W.1.2 MAFS.912.F-IF.2.4 MAFS.912.F-IF.3.7e	
31.03	Design experiments to test ability to overcome muscle fatigue.	LAFS.910.W.3.8 LAFS.910.L.2.4	
31.04	Describe the major things that happen in the major body systems while running a race.	LAFS.910.W.3.7 LAFS.910.L.3.4	
31.05	Understand how a training plan is designed for a fictional client, incorporating the specific health situation of the client.	LAFS.910.W.3.7 LAFS.910.L.3.4	
31.06	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.	LAFS.910.L.3.4 LAFS.910.W.2.4	
32.0	Describe the composition of skin and how the integumentary system serves as a protection for the human body. –The student will be able to:		SC.912.L.14.51 SC.912.N.1.1
32.01	Describe the structure and function of human skin.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
32.02	Explain burn degree terms in relation to damaged layers of the skin.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
32.03	Explain how burn damage to the skin affects function and homeostasis in the body.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
32.04	Explain in general how the human body senses and processes pain signals.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
32.05	Explain why pain is necessary to human survival.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
32.06	Compare normal human skin and burnt damaged skin.	MAFS.912.G-GMD.2.4	
32.07	Analyze the effects of rehabilitation of a burn victim and changes to everyday life.	LAFS.910.W.1.2F LAFS.910.W.1.3A,E	
33.0	Describe the composition of bones and how the skeletal system serves as a protection for the human body.–The student will be able to:		SC.912.L.14.12 SC.912.L.14.13 SC.912.L.14.14 SC.912.L.14.15 SC.912.N.1.1
33.01	Describe and compare the structure and function of compact and spongy bone.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
	33.02 Describe types of bone fractures.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	33.03 Identify bone fractures on x-rays and describe possible damage to internal organs.	LAFS.910.L.3.4 LAFS.910.W.2.4	
	33.04 Understand that the hormones calcitonin and parathyroid hormone have an effect on calcium balance and thus the strength of bone in the human body	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	33.05 Identify the stages of bone remodeling.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	33.06 Identify lifestyle choices that affect development and maintenance of healthy bones.	LAFS.910.L.3.4 LAFS.910.W.2.4	
34.0	Describe the composition the immune system and how it serves as a protection for the human body. –The student will be able to:		SC.912.L.14.42 SC.912.L.14.52
	34.01 Describe the general structure and function of the lymphatic and immune system.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	34.02 Describe in general the interaction between antigens and antibodies.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	34.03 Explain the role of specified blood cells in specific immunity.	LAFS.910.RI.2.4 LAFS.910.SL.1.1 LAFS.910.L.3.4	
	34.04 Understand how a pedigree can assist in determining blood types in a family.	LAFS.910.W.1.2F LAFS.910.RI.2.4 MAFS.912.S-CP.2.8 MAFS.912.S-CP.2.7	
	34.05 Interpret data on antibody concentrations after an infection.	LAFS.910.W.1.2F MAFS.912.S-ID.1.1 MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1	
	34.06 Determine potential blood donors for a transfusion through the analysis of blood types and Rh compatibility.	LAFS.910.W.1.2 LAFS.910.RI.2.4	
35.0	Examine the connection between all of the human body systems and how these systems work together to maintain health and homeostasis. –The student will be able to:		SC.912.N.1.1
	35.01 Describe the effects of an extreme external environment on human body systems.	LAFS.910.RI.2.4 LAFS.910.L.3.4	HE.912.C.1.3

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		LAFS.910.SL.1.1	
35.02	Explain in general how body systems work together to maintain homeostasis and complete basic functions.	LAFS.910.SL.1.1 LAFS.910.W.2.4	
35.03	Understand how initial symptoms of an illness can lead to diagnosis and treatment.	LAFS.910.W.3.8 LAFS.910.L.3.4	
35.04	Understand the need to valuate medical data to create a unique case study.	LAFS.910.L.3.4 LAFS.910.SL.1.2 LAFS.910.W.1.2 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
35.05	Understand that different diseases require different medical interventions	LAFS.910.W.3.4 LAFS.910.W.3.7 LAFS.910.SL.1.1B LAFS.910.SL.2.4 LAFS.910.L.3.4B	HE.912.C.1.5
35.06	Research the role of various medical professionals to diagnose and treat a fictional patient.	LAFS.910.W.3.8 LAFS.910.L.3.4	
35.07	Reflect on self-identity.	LAFS.910.W.1.3A,E	
35.08	Write a summary of career goals.	LAFS.910.W.4.10	

Florida Department of Education
Student Performance Standards

Course Title: **Medical Interventions**
Course Number: **8708130**
Course Credit: **1**

Course Description:

Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore: how to prevent and fight infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail. Through these scenarios, students are exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Equipment and supplies will be provided to enhance these hands-on experiences for students. A minimum of 20% of classroom time will be dedicated to laboratory experiences.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science.

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
36.0	Investigate the variety of interventions involved in the prevention, diagnosis and treatment of infectious disease.–The student will be able to:		SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.9 SC.912.L.16.10 SC.912.L.16.11 SC.912.L.17.1 SC.912.N.4.2
36.01	Define medical interventions and explain how these interventions help prevent, diagnose and treat disease.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.SL.1.1	
36.02	Define bioinformatics and explore how it is used in the collection, classification, storage and analysis of biochemical and biological information.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.1.1	
	36.03 Explain how bacteria can be identified using their DNA sequences.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	36.04 Investigate the significance of diagnostic tests for infectious diseases.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	36.05 Graphically organize connections between individuals in a fictitious disease outbreak.	LAFS.1112.W.2.4	
	36.06 Determine the concentration of infectious bacteria in simulated body fluids and identify infected patients using antibody-based diagnostic tests, such as ELISA assay.	LAFS.1112.W.2.4 LAFS.1112.SL.1.1B	
37.0	Explore the factors that contribute to the effectiveness of antibiotics against infectious diseases.–The student will be able to:		SC.912.L.14.52 SC.912.L.16.1 SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.9 SC.912.L.16.10
	37.01 Creatively describe the structure of a bacterial cell.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4	
	37.02 Investigate how antibiotics disrupt some of the pathways that bacteria need to survive.	LAFS.1112.W.3.7 LAFS.1112.W.2.4	
	37.03 Explain how bacteria use various pathways to gain resistance to antibiotics.	LAFS.1112.W.3.7 LAFS.1112.SL.1.1B LAFS.1112.SL.2.4	
	37.04 Creatively demonstrate one of the pathways through which bacterial cells transfer genes.	LAFS.1112.W.3.7 LAFS.1112.W.2.4	
	37.05 Use a model to simulate the effects of antibiotics on the population of bacteria during an infection.	LAFS.1112.SL.1.1 LAFS.1112.W.2.4	
38.0	Investigate hearing loss as a detrimental effect of infectious disease.–The student will be able to:		SC.912.L.14.5 SC.912.L.16.10 SC.912.N.1.3 SC.912.N.1.4 SC.912.N.1.6 SC.912.N.1.7 SC.912.N.3.5 SC.912.N.4.2 SC.912.P.10.20 SC.912.P.10.21
	38.01 Distinguish the properties of sound waves; including frequency and amplitude.	LAFS.1112.W.2.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		MAFS.912.F-TF.2.7	
	38.02 Apply knowledge of the structures of the ear to create a model of an ear.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.G-GMD.2.4	
	38.03 Identify and perform tests in which hearing loss can be evaluated.	LAFS.1112.W.2.4	
	38.04 Research the variety of interventions and services available to aide those with hearing loss.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	38.05 Investigate and debate the bioethical concerns related to the use of cochlear implant technology.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.SL.1.2	
39.0	Explore vaccination as a mode of infectious disease prevention.–The student will be able to:		SC.912.L.14.42 SC.912.L.14.52 SC.912.L.16.7 SC.912.L.16.10 SC.912.L.16.11 SC.912.L.16.12 SC.912.N.3.1 SC.912.N.4.1
	39.01 Explain how vaccines act as medical interventions to defend the body against infectious invaders.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	39.02 Explore the some of the various laboratory methods in which vaccines are produced.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	39.03 Define plasmids and explain their significance in genetic engineering.	LAFS.1112.W.2.4 LAFS.1112.L.3.6,	
	39.04 Investigate the importance of epidemiologists and the impact these medical professionals have on public health.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.W.3.8	
	39.05 Describe in general how vaccines interact with the human immune system.	LAFS.1112.W.2.4	
	39.06 Interpret data from a disease outbreak to determine the course of the infection.	LAFS.1112.W.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	
	39.07 Explore vaccination from the perspective of individuals from different generations.	LAFS.1112.W.2.4 LAFS.1112.SL.1.1A	
40.0	Investigate the available types of genetic testing/screening and their ethical implications.–The student will be able to:		SC.912.L.14.6 SC.912.L.16.1 SC.912.L.16.2

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
			SC.912.L.16. 3 SC.912.L.16.4 SC.912.L.16.5 SC.912.L.16.10 SC.912.L.16.11 SC.912.L.16.12 SC.912.N.1.1 SC.912.N.1.3 SC.912.N.1.6
40.01	Describe genetic testing and how it is used to determine if someone has a genetic disorder.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	HE.912.C.1.5
40.02	Explain how genetic counseling can positively affect persons who have had genetic testing for various situations.	LAFS.1112.RI.1.1 LAFS.1112.W.3.7 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
40.03	Amplify a segment of DNA in the laboratory using the Polymerase Chain Reaction (PCR) procedure.		
40.04	Use laboratory techniques such as DNA extraction, PCR, and restriction analysis to identify single base pair differences in DNA.		
40.05	Apply laboratory results to demonstrate the relationship between genotype and phenotype.	LAFS.1112.W.2.4 MAFS.912.S-IC.1.2	HE.912.C.1.7
40.06	Analyze prenatal genetic screening results.	LAFS.1112.W.2.4	HE.912.C.1.7
40.07	Describe the basics of proper prenatal care as well as specified medical interventions used to monitor a pregnancy.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	
40.08	Investigate how a person’s ability to taste the chemical PCT, their phenotype, relates to their results from laboratory genetic testing their genotype.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.S-IC.1.2	
41.0	Examine the current reproductive technology and discuss medical interventions of the future.–The student will be able to:		SC.912.L.16.3 SC.912.L.16.5 SC.912.L.16.13 SC.912.L.16.16 SC.912.N.1.1 SC.912.N.1.3 SC.912.N.1.5 SC.912.N.1.6 SC.912.N.1.7 SC.912.N.2.3

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
			SC.912.N.3.1 SC.912.N.4.1 SC.912.N.4.2
	41.01 Explore how gene therapy can be used to treat genetic disorders.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	HE.912.C.1.5
	41.02 Discuss and debate the safety and effectiveness of gene therapy.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.SL.1.2	
	41.03 Explore the various medical interventions parents have available to choose the sex of their future child, including sperm sorting and embryo selection by pre-implantation genetic diagnosis (PDG).	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.1	
	41.04 Discuss the possibility of reproductive cloning and the ethical concerns.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	
	41.05 Evaluate and debate the potential impact of reproductive technology from moral, ethical and scientific perspectives.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	
42.0	Explore the diagnostic techniques and technology being used to better diagnose and understand cancer.–The student will be able to:		SC.912.L.16.5 SC.912.L.16.8
	42.01 Investigate the physiology of cancer and discuss how cancerous cells differ from normal/healthy cells.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	HE.912.C.1.5
	42.02 Describe some of the different uses of x-rays, CT scans, and MRI scans.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	42.03 Investigate what DNA microarrays measure and how this information is used to determine differences in gene expression between differing tissues samples.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.S-IC.2.5 MAFS.912.S-IC.2.6	
	42.04 Using statistical analysis, determine the similarities between gene expression patterns of multiple patients.	LAFS.1112.W.2.4 MAFS.912.S-IC.2.5 MAFS.912.S-IC.2.6	
43.0	Explore the potential risk factors associated with cancer and the various situations which cause changes to DNA.–The student will be able to:		SC.912.L.16.8 SC.912.N.1.5 SC.912.N.1.6 SC.912.N.4.2
	43.01 Describe the potential risk factors for different types of cancer as well as the ways to reduce the risk.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	HE.912.C.1.3

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	43.02 Explore some of the various cancer screening techniques that can be used to predict risk for developing cancer.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	HE.912.C.1.5
	43.03 Investigate viruses as a risk factor or cause for certain cancers.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.S-MD.2.7	
44.0	Investigate the treatments and therapies available to treat cancer and its physical, mental and emotional effects.–The student will be able to:		SC.912.L.16.8 SC.912.N.1.1 SC.912.N.4.2 SC.912.P.8.6 SC.912.P.8.7
	44.01 Define and identify the major differences between chemotherapy and radiation therapy.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.L.3.4C	HE.912.C.1.5
	44.02 Describe in general how chemotherapy drugs interact with and destroy cancer cells.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	HE.912.C.1.5
	44.03 Explore biofeedback therapy and how it is utilized to treat cancer and its symptoms.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.S-IC.2.6	
	44.04 Exhibit information on the advances and benefits of prosthetic technology for those who have lost their limbs.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 MAFS.912.S-IC.2.6	
	44.05 Explain how physical and occupational therapists help patients with disabilities or recovering from surgery/injury.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.W.3.8 LAFS.1112.W.1.2	
45.0	Explore the future of medical interventions for cancer.–The student will be able to:		SC.912.N.1.1 SC.912.N.1.4 SC.912.N.1.6
	45.01 Discuss some of the many reasons why therapy drugs do not produce the same effect in all individuals.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.SL.1.1	
	45.02 Explain how SNP profiles factor into the decision to prescribe a specific medication.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	45.03 Explore the field of pharmacogenetics and its contributions to the improvement of individualized patient treatment.	LAFS.1112.W.2.4, LAFS.1112.W.3.7	
	45.04 Research and present how cases of human abuse have led to strict regulations of human participation in clinical trials.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 MAFS.912.S-MD.2.7	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
45.05	Describe the importance of nanomedicine, particularly for cancer research and the development of medical interventions.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
46.0	Explore the medical implications of proteins produced and purified in a laboratory setting.–The student will be able to:		SC.912.L.16.3 SC.912.L.16.4 SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.8 SC.912.L.16.10 SC.912.N.1.1 SC.912.N.1.6 SC.912.N.2.4 SC.912.N.3.1 SC.912.N.3.2 SC.912.N.4.1 SC.912.N.4.2
46.01	Discuss how the diagnosis and treatment of diabetes has evolved from the 1800s through today.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.2	
46.02	Explain the specific bacterial transformation process that they perform.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
46.03	Define chromatography and how it is used to separate items in a mixture.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.L.3.4C LAFS.1112.L.3.6	
46.04	Interpret electrophoresis results to determine the molecular weight of specific proteins in a mixture.	MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1	
46.05	Explore and reflect on specific biomedical careers in the manufacturing of therapeutic proteins.	LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.W.3.8	
47.0	Investigate the causes and treatments for kidney failure.–The student will be able to:		SC.912.L.14.30 SC.912.L.14.31 SC.912.L.14.35 SC.912.L.14.45 SC.912.L.14.47 SC.912.L.14.52
47.01	Describe End Stage Renal Disease (ESRD) and how it is diagnosed.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	47.02 Describe the chain of events that result when kidneys do not function properly and how it affects the creation of red blood cells.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.1	
	47.03 Explore the medical options for treatment for persons with ESRD including hemodialysis, peritoneal dialysis and kidney transplant.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	HE.912.C.1.5
48.0	Explore the process, policies and procedures involved for organ transplantation–The student will be able to:		SC.912.L.14.34 SC.912.L.14.35
	48.01 Consider the integral factors to consider when deciding who should receive an organ transplant.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	48.02 Describe the importance of blood and tissue typing for a successful organ transplant.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	48.03 Describe the general steps involved in a live donor laparoscopic nephrectomy.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	
	48.04 Compare the major similarities and differences between a heart and a kidney transplant.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.1	
	48.05 Explain the most common ways members of the surgical transplant team work together for a successful transplant.	LAFS.1112.W.2.4 LAFS.1112.SL.1.1	
49.0	Investigate how advances in medical knowledge and technology can aid in building a better human body for the future.–The student will be able to:		SC.912.L.14.11 SC.912.L.14.16 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.45 SC.912.L.14.52 SC.912.L.16.10 SC.912.N.1.1 SC.912.N.1.3 SC.912.N.1.5 SC.912.N.1.6 SC.912.N.1.7 SC.912.N.2.1 SC.912.N.2.2 SC.912.N.2.3 SC.912.N.2.4 SC.912.N.4.1 SC.912.N.4.2
	49.01 Explore how a variety of tissues and organs can be transplanted from one organism to another.	LAFS.1112.W.2.4 LAFS.1112.W.3.7	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
49.02 Describe the general process of how xenotransplantation and tissue engineering works, as well as potential risks, benefits, challenges and ethical/moral concerns.	LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.SL.1.3	
49.03 Reflect on how current methods of medical intervention can be improved.	LAFS.1112.W.2.4	
49.04 Describe how advancing medical knowledge and technology will enable scientists to enhance the human body.	LAFS.1112.W.2.4	
49.05 Design a potential “super” human using knowledge of the human body and available medical interventions.	LAFS.1112.W.1.2 LAFS.1112.W.2.4 LAFS.1112.W.3.7 LAFS.1112.W.3.8 LAFS.1112.SL.2.4 LAFS.1112.SL.2.5 LAFS.1112.RI.1.1	

Florida Department of Education
Student Performance Standards

Course Title: **Biomedical Innovation**
Course Number: **8708140**
Course Credit: **1**

Course Description:

In this capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
50.0	Investigate biomedical problems related to clinical care by designing an effective emergency care center.–The student will be able to:		SC.912.L.16.10 SC.912.N.1.1
50.01	Evaluate the significant role that biomedical innovation plays in treating disease, reducing wait time and promoting efficient care in emergency room and emergency care centers.	LAFS.1112.SL.1.1 LAFS.1112.W.3.8	HE.912.C.1.5
50.02	Analyze website content and assess overall credibility of the information.	LAFS.1112.W.2.6	
50.03	Produce an effective presentation of scientific information by using oral communication skills and PowerPoint presentation.	LAFS.1112.SL.1.1B LAFS.1112.SL.2.4 LAFS.1112.W.3.8 LAFS.1112.L.3.4	
50.04	Using brainstorming and problem solving skills propose solutions to healthcare delivery problems in the 21st century.	LAFS.1112.W.3.8 LAFS.1112.RI.1.1 LAFS.1112.SL.1.1B	
50.05	Design an innovative emergency medicine delivery system.	LAFS.1112.W.2.5 LAFS.1112.W.2.6 LAFS.1112.RI.3.7 LAFS.1112.L.1.1 LAFS.1112.SL.2.4	
50.06	Demonstrate proficiency in using online search engines and journal databases to locate reliable scientific articles.	LAFS.1112.W.2.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
51.0	Explore the variety of research study designs available and investigate how to set up and conduct valid and reliable studies.–The student will be able to:		SC.912.N.1.1 SC.912.N.1.3 SC.912.N.1.7
51.01	Critique science data presented in popular media and compare this with data presented in scientific journals.	LAFS.1112.W.1.2F LAFS.1112.RI.1.2 MAFS.912.S-IC.1.1 MAFS.912.S-IC.2.6	
51.02	Using knowledge of specified statistical analysis methods, analyze the results of experimental studies.	LAFS.1112.RI.1.1 LAFS.1112.W.3.7 MAFS.912.S-IC.1.2 MAFS.912.S-MD.2.7	
51.03	Design, conduct and analyze an experimental study to answer a question regarding one or more body systems.	LAFS.1112.W.3.8 LAFS.1112.L.3.4 MAFS.912.S-IC.1.2 MAFS.912.S-MD.2.7	
51.04	Using at least three statistical fallacies, assume the role of an advertisement sales person selling a fictitious product.	LAFS.1112.SL.1.3 LAFS.1112.W.4.10 MAFS.912.S-MD.2.5	
51.05	Reflect on the various biomedical career fields related to clinical or research studies and describe two of these career fields.	LAFS.1112.W.3.1A,E LAFS.1112.W.3.7 LAFS.1112.L.3.4	
52.0	Explore the process, knowledge and skills required to design a medical innovation.–The student will be able to:		SC.912.N.1.1 SC.912.N.1.7
52.01	Investigate the evolution of biomedical products.	LAFS.1112.W.3.7	
52.02	Brainstorm ideas for a new biomedical product or methods to improve on an existing product.	LAFS.1112.W.3.7	
52.03	Discuss the concept of design process and how it is significant to medical innovation.	LAFS.1112.SL.1.1	
52.04	Choose a problem to solve, and then research the past and present solutions to this problem.	LAFS.1112.W.3.8 LAFS.1112.L.3.4 LAFS.1112.L.3.7 LAFS.1112.SL.1.1B	
52.05	Examine possible design solutions to the problem chosen, select the best approach and develop a design proposal.	LAFS.1112.W.4.10 LAFS.1112.L.3.4	
52.06	Design a marketing plan to pitch the chosen solution to potential investors.	LAFS.1112.SL.2.4 LAFS.1112.W.1.2F	
53.0	Explore biomedical innovation through investigating water contamination.–The student will be able to:		SC.912.L.14.6 SC.912.L.14.52

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
			SC.912.L.17.13 SC.912.L.17.15 SC.912.L.17.16 SC.912.L.17.17 SC.912.L.17.18 SC.912.N.1.1 SC.912.N.1.4 SC.912.N.1.6
53.01	List and describe multiple causes of water contamination.	LAFS.1112.SL.1.1 LAFS.1112.L.3.4	
53.02	Explain why water quality is a global issue.	LAFS.1112.SL.1.1 LAFS.1112.W.4.10	HE.912.C.1.3
53.03	Extrapolate on the cause of non-point source pollution and its implications.	LAFS.1112.W.3.7 LAFS.1112.W.4.10	
53.04	Using knowledge of specific assays, interpret the results of various chemical and culture assays and identify specific contaminants found.	LAFS.1112.W.1.2F LAFS.1112.W.2.4 LAFS.1112.L.3.4 MAFS.912.S-IC.2.6	
53.05	Research and propose solutions to prevent or treat water contamination.	LAFS.1112.W.3.8 LAFS.1112.RI.2.4	
53.06	Determine local potential hazards or sources of contamination of local water samples and research local and Internet resources to investigate the condition of the local water delivery system.	LAFS.1112.W.1.2 LAFS.1112.L.3.4	HE.912.C.1.3
53.07	Report on the quality of the local water.	LAFS.1112.SL.2.4 LAFS.1112.L.3.4 MAFS.912.S-IC.2.6	HE.912.C.1.3
54.0	Evaluate a public health issue and combat the problem using knowledge of epidemiology, disease diagnosis and public health resources.–The student will be able to:		SC.912.L.14.6 SC.912.L.14.52 SC.912.L.16.3 SC.912.L.16.5 SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.9 SC.912.L.16.12 SC.912.N.1.1 SC.912.N.1.4 SC.912.N.1.6
54.01	Discuss the significant role that epidemiologists and public health investigators play in a public health crisis or disease outbreak.	LAFS.1112.W.1.3A, E LAFS.1112.W.3.7	HE.912.C.1.5

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		LAFS.1112.L.3.4 MAFS.912.S-IC.1.2 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3	
54.02	Describe how to set-up case control and cohort studies.	LAFS.1112.W.2.4	
54.03	Discuss how measures of association are used to illustrate the correlation between specific risk factors and the development of disease.	LAFS.1112.SL.1.1B	HE.912.C.1.3
54.04	Calculate the measures of association used to assess risk in case control and cohort studies.	MAFS.912.S-CP.1.5 MAFS.912.S-IC.2.6	
54.05	List and discuss the various components that may be involved in a public health intervention plan.	LAFS.1112.L.3.4 LAFS.1112.SL.1.1B	
54.06	Determine the source of a mystery illness by examining evidence documents and data including laboratory results, imaging results, disease maps and molecular data.	LAFS.1112.W.3.8 LAFS.1112.SL.2.4 LAFS.1112.SL.1.1B LAFS.1112.L.3.4 MAFS.912.S-IC.1.2 MAFS.912.S-IC.2.6 MAFS.912.S-IC.2.4	
54.07	Research local, national and global health issues and analyze how culture, geographic location and access to health care affect health and wellness.	LAFS.1112.W.3.8 LAFS.1112.SL.1.1B LAFS.1112.SL.2.4 LAFS.1112.L.3.4 LAFS.1112.RI.1.1	HE.912.C.1.3
54.08	Write a grant proposal outlining an intervention plan for a particular public health issue.	LAFS.1112.W.3.8 LAFS.1112.SL.1.1B LAFS.1112.L.3.4	
54.09	Present and defend the proposed intervention plan to a professional audience.	LAFS.1112.SL.2.4	
55.0	Understand medical research and the process of writing a scientific grant.–The student will be able to:		SC.912.N.1.1 SC.912.N.1.3 SC.912.N.1.4 SC.912.N.1.7 SC.912.N.2.4 SC.912.N.4.2
55.01	Define and elaborate on what medical research is used for and how funding for it is obtained.	LAFS.1112.W.3.7	
55.02	Explain the role of a grant in relation to medical research.	LAFS.1112.SL.1.1 LAFS.1112.W.3.7	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
55.03	Understand the difference between what constitutes a credible source opposed to a non-credible source when conducting a literature search.	LAFS.1112.W.3.7	
55.04	Distinguished between primary and secondary sources.	LAFS.1112.W.3.7	
55.05	Discuss potential bias based on construct and funding sources of research.	MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1 MAFS.912.S-IC.2.5 MAFS.912.S-IC.2.6	
55.06	Discuss the role of an IRB in ensuring safety of a research project prior to data initiation.		
55.07	Understand and identify the process by which a grant is created and the principle components that are present in scientific grant proposals (i.e. abstract, specific aims, background and significance, preliminary data/progress, project description, resources, supplemental materials).	LAFS.1112.W.3.7 LAFS.1112.SL.1.1	
55.08	Prepare, write and present a detailed grant proposal for a research project that will impact a specific aspect of a disease or medical condition.	LAFS.1112.W.3.7 LAFS.1112.SL.2.4 LAFS.1112.SL.2.5 LAFS.1112.W.1.2 LAFS.1112.W.2.6	
56.0	(Optional) Use modern molecular biology techniques to clone and transfer DNA.–The student will be able to:		SC.912.L.16.3 SC.912.L.16.5 SC.912.L.16.6 SC.912.L.16.7 SC.912.L.16.9 SC.912.L.16.12
56.01	Explain the structure and function of plasmids, and how they are used in genetic engineering.	LAFS.1112.L.3.4 LAFS.1112.W.2.4 LAFS.1112.SL.1.1	
56.02	Describe the role restriction enzymes and how they interact with plasmids.	LAFS.1112.W.3.8 LAFS.1112.SL.1.1A,C,D LAFS.1112.W.1.2F	
56.03	Interpret plasmid maps to determine the results of specific digestions with restriction enzymes.	LAFS.1112.W.1.2F	
56.04	Explain how to assemble recombinant DNA and clone a gene of interest using bacterial cells.	LAFS.1112.L.3.4 LAFS.1112.SL.1.1 LAFS.1112.W.2.4	
56.05	Interpret gel electrophoresis results to determine the success of a cloning experiment.	LAFS.1112.W.1.2F MAFS.912.N-Q.1.3 MAFS.912.S-IC.2.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		MAFS.912.N-Q.1.1	
	56.06 Using the process of bacterial transformation, insert a new plasmid into bacterial cells.	LAFS.1112.W.3.9 LAFS.1112.RI.3.7	
	56.07 Draw and label possible ligation products and describe digestion results for each product.	LAFS.1112.SL.1.1 LAFS.1112.W.2.4	
57.0	(Optional) Assuming the role of a medical expert, investigate a mysterious death using forensics autopsy techniques.–The student will be able to:		SC.912.N.1.1
	57.01 Describe observations of the internal and external anatomy of a fetal pig.	LAFS.1112.W.4.10 LAFS.1112.L.3.4 LAFS.1112.W.1.2F	
	57.02 Evaluate a fetal pig for any abnormalities that may have led to the pig's death.		
	57.03 Complete an autopsy report for the fetal pig.	LAFS.1112.RI.1.2 LAFS.1112.W.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.G-GMD.2.4 MAFS.912.S-IC.2.6	
	57.04 Solve the cause of death for a fetal pig by assuming the role of a forensic pathologist.	LAFS.1112.W.1.2F MAFS.912.S-IC.2.6	
	57.05 Design a fictitious death scenario using knowledge of the human body.	LAFS.1112.W.1.2	
	57.06 Create fictitious documents including an autopsy report and medical history to illustrate clues left behind in a dead body.	LAFS.1112.W.1.2 MAFS.912.N-Q.1.1	
	57.07 Research and reflect on the various biomedical careers involved in forensic pathology and describe two of these careers in detail.	LAFS.1112.W.1.3A,E	
58.0	(Optional) Students work independently in an area of interest in the biomedical sciences and outline milestones in a long-term open ended problem using skills learned throughout the program to complete the project. –The student will be able to:	MAFS.912.S-IC.2.3-6	SC.912.N.1.1
	58.01 Choose a topic and describe work previously completed pertaining to that topic.	LAFS.1112.W.3.8 LAFS.1112.L.3.4	
	58.02 Interpret charts, graphs, data sets and any other information related to the project.	LAFS.1112.W.1.2F	
	58.03 Utilize time and project management skills to complete the approved project in the time allotted.		
	58.04 Apply skills and knowledge of researching a topic, evaluating information and decision making in order to complete the project.		
	58.05 Write a well-constructed final report describing the purpose, procedures and results of the project and present this information orally.	LAFS.1112.W.3.8 LAFS.1112.L.3.4	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci/HE
		LAFS.1112.SL.2.4	
58.06	Create a final product related to the project.	LAFS.1112.W.1.2F	
58.07	Write a self-analysis of what was learned during the project with a focus on whether things should have been done differently or not.	LAFS.1112.W.1.3A,E	
58.08	Prepare a portfolio of all artifacts related to the project in order to demonstrate the work progression.	LAFS.1112.W.3.8 LAFS.1112.L.3.4	

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

This program uses a combination of activity-based, project-based and problem-based (APPB) learning styles to engage students.

Hands-on projects include designing experiments, investigating the structures and functions of body systems, and using data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Using 3D imaging, data acquisition software, and current scientific research, students design a product that can be used as a medical intervention.

The capstone course gives student teams the opportunity to work with a mentor, identify a scientific research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers.

Career and Technical Student Organization (CTSO)

Health Occupation Students of America is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional

methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Health Science Career Pathways**
Course Type: **Orientation/Exploratory**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8709350
CIP Number	148709350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to a broad overview of the Health Science career cluster, including terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8709350	Introduction to Health Science Career Pathways	ANY HEALTH OCCUP G *(See DOE approved list)	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the Therapeutic Services career pathway.
02.0 Demonstrate an understanding of the Diagnostic Services career pathway.
03.0 Demonstrate an understanding of the Health Informatics career pathway.
04.0 Demonstrate an understanding of the Support Services career pathway.
05.0 Demonstrate an understanding of the Biotechnology Research and Development career pathway.
06.0 Apply leadership and communication skills.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Health Science Career Pathways**
Course Number: **8709350**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Health Science career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Therapeutic Services career pathway.--The student will be able to:
01.01	Define and use proper terminology associated with the Therapeutic Services career pathway.
01.02	Explore a variety of careers in the Therapeutic Services career pathway, including educational requirements and salary expectations, such as EMS; Nursing; Dentistry; Pharmacy; Sports Medicine.
01.03	Identify common characteristics of the careers in the Therapeutic Services pathway.
01.04	Identify skills and equipment used in Therapeutic Service careers.
01.05	Perform lab activities that are relevant to each career that is being explored.
02.0	Demonstrate an understanding of the Diagnostic Services career pathway. --The student will be able to:
02.01	Define and use proper terminology associated with the Diagnostic Services career pathway.
02.02	Explore a variety of careers in the Diagnostic Services career pathway. Suggested careers to focus on: Medical Laboratory Services; Radiology; Ophthalmology
02.03	Identify common characteristics of the careers in the Diagnostic Services career pathway.
02.04	Identify skills required to successfully enter any career in the Diagnostic Services career pathway.
02.05	Perform lab activities related to careers being explored for example blood glucose testing, blood typing, and vision testing.
03.0	Demonstrate an understanding of the Health Informatics career pathway. --The student will be able to:
03.01	Define and use proper terminology associated with the Health Informatics career pathway.

CTE Standards and Benchmarks	
	03.02 Explore a variety of careers in the Health Informatics career pathway.
	03.03 Explore the careers available in the Health Informatics; Medical Coding/Biller; Medical Office Administration
	03.04 Identify common characteristics of the careers in the Health Informatics career pathway.
	03.05 Identify skills required to successfully enter any career in the Health Informatics career pathway.
	03.06 Perform activities related to health informatics careers such as evaluating medical records or bills, office reception and support.
04.0	Demonstrate an understanding of the Support Services career pathway. --The student will be able to:
	04.01 Define and use proper terminology associated with the Support Services career pathway.
	04.02 Explore a variety of careers in the Support Services career pathway. Suggested careers: dietary services;; central supply ; social services ; environmental services
	04.03 Identify common characteristics of the careers in the Support Services career pathway.
	04.04 Identify skills required to successfully enter any career in the Support Services career pathway.
	04.05 Perform lab skills related to covered careers such as diet plan design and housekeeping skills.
05.0	Demonstrate an understanding of the Biotechnology Research and Development career pathway. --The student will be able to:
	05.01 Define and use proper terminology associated with the Biotechnology Research and Development career pathway.
	05.02 Explore a variety of careers in the Biotechnology Research and Development career pathway. Suggested careers: Biomedical Engineering and Biomedical Research
	05.03 Identify skills required to successfully enter any career in the Biotechnology Research and Development career pathway.
	05.04 Perform lab skills related to covered career, for example: microbiology labs; investigating antisepsis procedures; DNA extraction lab.
	05.05 Explore the role of research in medical advancements and discoveries that promote wellness for example development of vaccines and discovery of the structure of DNA.
06.0	Apply leadership and communication skills. --The student will be able to:
	06.01 Increase awareness of leadership opportunities through professional organizations such as Career Technical Student Organizations (CTSOs).
	06.02 Identify the characteristics of effective leadership.
	06.03 Demonstrate effective communication skills.
	06.04 Demonstrate an understanding of how information technology is used in health care.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Health Science Career Pathways and Career Planning***
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8709360
CIP Number	148709360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to a broad overview of the Health Science career cluster, including terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8709360	Introduction to Health Science Career Pathways and Career Planning	ANY HEALTH OCCUP G *(See DOE approved list)	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the Therapeutic Services career pathway.
02.0 Demonstrate an understanding of the Diagnostic Services career pathway.
03.0 Demonstrate an understanding of the Health Informatics career pathway.
04.0 Demonstrate an understanding of the Support Services career pathway.
05.0 Demonstrate an understanding of the Biotechnology Research and Development career pathway.
06.0 Apply leadership and communication skills.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

07.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
08.0 Develop skills to locate, evaluate, and interpret career information.
09.0 Identify and demonstrate processes for making short and long term goals.
10.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
11.0 Understand the relationship between educational achievement and career choices/postsecondary options.
12.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.
13.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
14.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Health Science Career Pathways and Career Planning**
Course Number: **8709360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Health Science career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Therapeutic Services career pathway.--The student will be able to:
01.01	Define and use proper terminology associated with the Therapeutic Services career pathway.
01.02	Explore a variety of careers in the Therapeutic Services career pathway, including educational requirements and salary expectations, such as EMS; Nursing; Dentistry; Pharmacy; Sports Medicine.
01.03	Identify common characteristics of the careers in the Therapeutic Services pathway.
01.04	Identify skills and equipment used in Therapeutic Service careers.
01.05	Perform lab activities that are relevant to each career that is being explored.
02.0	Demonstrate an understanding of the Diagnostic Services career pathway. --The student will be able to:
02.01	Define and use proper terminology associated with the Diagnostic Services career pathway.
02.02	Explore a variety of careers in the Diagnostic Services career pathway. Suggested careers to focus on: Medical Laboratory Services; Radiology; Ophthalmology
02.03	Identify common characteristics of the careers in the Diagnostic Services career pathway.
02.04	Identify skills required to successfully enter any career in the Diagnostic Services career pathway.
02.05	Perform lab activities related to careers being explored for example blood glucose testing, blood typing, and vision testing.
03.0	Demonstrate an understanding of the Health Informatics career pathway. --The student will be able to:
03.01	Define and use proper terminology associated with the Health Informatics career pathway.

	03.02 Explore a variety of careers in the Health Informatics career pathway.
	03.03 Explore the careers available in the Health Informatics; Medical Coding/Biller; Medical Office Administration
	03.04 Identify common characteristics of the careers in the Health Informatics career pathway.
	03.05 Identify skills required to successfully enter any career in the Health Informatics career pathway.
	03.06 Perform activities related to health informatics careers such as evaluating medical records or bills, office reception and support.
04.0	Demonstrate an understanding of the Support Services career pathway. --The student will be able to:
	04.01 Define and use proper terminology associated with the Support Services career pathway.
	04.02 Explore a variety of careers in the Support Services career pathway. Suggested careers: dietary services;; central supply ; social services; environmental services
	04.03 Identify common characteristics of the careers in the Support Services career pathway.
	04.04 Identify skills required to successfully enter any career in the Support Services career pathway.
	04.05 Perform lab skills related to covered careers such as diet plan design and housekeeping skills.
05.0	Demonstrate an understanding of the Biotechnology Research and Development career pathway. --The student will be able to:
	05.01 Define and use proper terminology associated with the Biotechnology Research and Development career pathway.
	05.02 Explore a variety of careers in the Biotechnology Research and Development career pathway. Suggested careers: Biomedical Engineering and Biomedical Research
	05.03 Identify skills required to successfully enter any career in the Biotechnology Research and Development career pathway.
	05.04 Perform lab skills related to covered career, for example: microbiology labs; investigating antisepsis procedures; DNA extraction lab.
	05.05 Explore the role of research in medical advancements and discoveries that promote wellness for example development of vaccines and discovery of the structure of DNA.
06.0	Apply leadership and communication skills. --The student will be able to:
	06.01 Increase awareness of leadership opportunities through professional organizations such as Career Technical Student Organizations (CTSOs).
	06.02 Identify the characteristics of effective leadership.
	06.03 Demonstrate effective communication skills.
	06.04 Demonstrate an understanding of how information technology is used in health care.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.	

The student will be able to:	
07.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
07.0	Develop skills to locate, evaluate, and interpret career information.
08.0	Identify and demonstrate processes for making short and long term goals.
09.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
10.0	Understand the relationship between educational achievement and career choices/postsecondary options.
11.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
12.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
13.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

Laboratory activities are an integral part of this program. These activities include instruction in the use of safety procedures, tools, equipment, materials, and processes related to these occupations. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Career Planning

The requirements of section 1003.4156 (1) (e), Florida Statutes, have been integrated into this course. The statute requires that students take a career and education planning course that must result in a completed personalized academic and career plan for the student; must emphasize the importance of entrepreneurship skills; must emphasize technology or the application of technology in career fields; and, beginning in the 2014-2015 academic year, must provide information from the Department of Economic Opportunity's economic security report as described in section 445.07, Florida Statutes.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Massage Therapy**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

This program has been daggered for deletion with 2016-2017 being the last cohort of students permitted to enroll in the program. After 2016-2017, no new students may be enrolled in this program. Beginning in 2017-2018, new students should be enrolled in Massage Therapy (H120406).

PSAV	
Program Number	H120405
CIP Number	0351350100
Grade Level	30, 31
Standard Length	750 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9011 Massage Therapists 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as Florida licensed massage therapists, all other service workers. SOC Code 31-9011-(Massage Therapists).

The content includes but is not limited to the theory and practice of massage, theory and practice of hydrotherapy, hygiene, practice demonstration, human anatomy and physiology, legal aspects of massage practice, allied modalities, leadership and human relations skills, health and safety, CPR, and employability skills. Colonic irrigation is optional post initial licensure.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	MASSAGE TH 7 G	90 hours	31-9099
	MSS0205	Massage Therapist 1		360 hours	31-9011
B	MSS0206	Massage Therapist 2		300 hours	

Regulated Programs

After completion of this program students will be eligible to make an application to take the licensure examination approved by the Board of Massage Therapy.

Contact: Department of Health
Board of Massage Therapy
4052 Bald Cypress Way
Bin # CO6
Tallahassee, FL 32399 850/488-0595

Course of Study Classroom Hours as stated in F.A.C. 64B7-32.003 -

Anatomy and Physiology	150
Basic Massage Theory and History	100
Clinical Practicum	125
Allied Modalities	76
Business	15

Theory and Practice of Hydrotherapy	15
Florida Laws and Rules (Chapters 456 and 480, F.S. and Chapter 64B7, F.A.C.)	10
Professional Ethics	4
HIV/AIDS Education	3
Medical Errors	2

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Colonic irrigation instruction is optional post initial licensure. If such instruction is provided, it must meet minimum standards as provided per Board rule 64B7-32.005.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Exhibit an understanding of the principles of the theories of therapeutic massage and demonstrate the proper techniques of massage manipulations.
13.0 Exhibit an understanding of the principles of the theory of hydrotherapy and use hydrotherapy modalities.
14.0 Demonstrate safety and health practices that are conducive to the hygiene of massage therapist and the client/patient.
15.0 Demonstrate knowledge of the Florida Massage Practice Act and the rules of the Board of Massage Therapy (Chapter 480, F.S., Chapter 456 F.S., and Chapter 64B7).
16.0 Explain the use of allied studies related to massage therapy.
17.0 Demonstrate an understanding of human anatomy and physiology as related to the practice of massage therapy.
18.0 Demonstrate knowledge of basic business practices and standards.

Florida Department of Education
Student Performance Standards

Program Title: **Massage Therapy**
PSAV Number: **H120405**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MSS0205 **Occupational Completion Point: B** **Massage Therapist 1 – 360 Hours – SOC Code 31-9011**	
12.0	Exhibit an understanding of the principles of the theories of therapeutic massage and demonstrate the proper techniques of massage manipulations--The student will be able to:
12.01	Discuss the history of massage therapy and historical practitioners.
12.02	Explain the physiological effects of massage therapy.
12.03	Perform the various manipulations.
12.04	Discuss the effects and usage of lubricants in massage therapy and apply appropriately.
12.05	Demonstrate an understanding of assessment indications and contraindications of massage therapy and various pathological conditions.
12.06	Interview the client/patient to ascertain his/her indications and/or contraindications for therapy.
12.07	Operate specific massage therapy equipment.
12.08	Practice proper body mechanics.
12.09	Perform proper client/patient draping techniques.

13.0	Exhibit an understanding of the principles of the theory of hydrotherapy and use hydrotherapy modalities--The student will be able to:
	13.01 Interview the clients/patients to ascertain their indications and/or contraindications for therapy.
	13.02 Perform hydrotherapy services such as thermal and cryotherapy.
	13.03 Demonstrate knowledge of accepted temperature and time standards for each hydrotherapy technique.
14.0	Demonstrate safety and health practices that are conducive to the hygiene of massage therapist and the client/patient--The student will be able to:
	14.01 Explain the ways a facility should be planned and maintained to promote health and safety.
	14.02 Demonstrate proper client/patient positioning, support, draping techniques.
	14.03 Outline practices conducive to personal health, appearance and cleanliness.
	14.04 List and explain measures conducive to eliminating medical errors.

Course Number: MSS0206 **Occupational Completion Point: B** **Massage Therapist 2 – 300 Hours – SOC Code 31-9011**	
15.0	Demonstrate knowledge of the statutes and rules of Florida massage practice act and the rules of the fl board of massage therapy (Chapter 480, F.S.; Chapter 64b7). – The student will be able to:
	15.01 State the purpose of the Massage Practice Act.
	15.02 State the qualifications necessary for licensure and renewal of license.
	15.03 State the function of the Board of Massage Therapy and the Department of Health.
	15.04 State the conditions necessary for acceptance for examination by the Board.
	15.05 State the requirements for massage therapy establishments and their inspection.
	15.06 Understand the grounds for which disciplinary actions may be taken by the Board of Massage Therapy.
	15.07 Define the terms: Board, Department, Massage Therapist, Apprentice, Inactive Licensure, Establishment and Licensure.
16.0	Explain the use of allied studies related to massage therapy. –The student will be able to:
	16.01 Identify various modalities utilized within the scope of practice of massage therapy.
	16.02 Identify related modalities outside the scope of massage therapy for the purposes of referral.

	16.03	Educate clients/patients in the use of various self-care techniques and applications such as applying ice, heat and stretching.
17.0	Demonstrate an understanding of human anatomy and physiology as related to the practice of massage therapy. – The student will be able to:	
	17.01	Explain the structure and function of all the body systems, organs, tissues and cells with emphasis on origins, insertions and actions of muscles.
	17.02	Explain the concept of homeostasis and how it relates to massage therapy and its modalities.
	17.03	Explain the effects on the human body of massage, hydrotherapy, and various modalities.
	17.04	Demonstrate knowledge and use of appropriate medical terminology in the field of massage therapy.
18.0	Demonstrate knowledge of basic business practices and standards.--The student will be able to:	
	18.01	Define basic business practices and standards.
	18.02	List the advantages and disadvantages of business ownership.
	18.03	Identify the necessary personal characteristics of a successful entrepreneur.
	18.04	Identify the business skills needed to operate a small business efficiently and effectively.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The program must be approved by the Florida Department of Health, Board of Massage Therapy so that the graduates may take the board approved examination to practice as massage therapists.

Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

Following the successful completion of the core the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Massage Therapy**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H120406
CIP Number	0351350102
Grade Level	30, 31
Standard Length	750 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9011 Massage Therapists 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as Florida licensed massage therapists, all other service workers. SOC Code 31-9011-(Massage Therapists).

The content includes but is not limited to the theory and practice of massage, theory and practice of hydrotherapy, hygiene, practice demonstration, human anatomy and physiology, legal aspects of massage practice, allied modalities, leadership and human relations skills, health and safety, CPR, and employability skills. Colonic irrigation is optional post initial licensure.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the post-secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	MSS0204	Massage Therapy 1	MASSAGE TH 7 G	375 hours	31-9099
B	MSS0209	Massage Therapy 2		375 hours	31-9011

Regulated Programs

The program must be approved by the Florida Department of Health, Board of Massage Therapy so that the graduates may take the board approved examination to practice as massage therapists.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

After completion of this program students will be eligible to make an application to take the licensure examination approved by the Board of Massage Therapy.

Contact: Department of Health
Board of Massage Therapy
4052 Bald Cypress Way
Bin # CO6
Tallahassee, FL 32399 850/488-0595

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Colonic irrigation instruction is optional post initial licensure. If such instruction is provided, it must meet minimum standards as provided per Board rule 64B7-32.005.

Course of Study Classroom Hours as stated in F.A.C. 64B7-32.003 -

Anatomy and Physiology	150
Basic Massage Theory and History	100
Clinical Practicum	125
Allied Modalities	76
Business	15
Theory and Practice of Hydrotherapy	15
Florida Laws and Rules (Chapters 456 and 480, F.S. and Chapter 64B7, F.A.C.)	10
Professional Ethics	4
HIV/AIDS Education	3
Medical Errors	2

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate the ability to communicate effectively as a medical therapy professional.
02.0 Demonstrate an understanding of human anatomy and physiology, kinesiology and pathology as related to the practice of massage therapy.
03.0 Exhibit an understanding of the principles of the theories of therapeutic massage and demonstrate the proper techniques of massage manipulations.
04.0 Demonstrate the recommended safety, hygiene and health practices for the massage therapist.
05.0 Exhibit an understanding of the principles of the theory of hydrotherapy and use hydrotherapy modalities.
06.0 Explain and appropriately apply allied modalities related to massage therapy.
07.0 Demonstrate knowledge of ethical practice standards and the statutes and rules of Florida Massage Practice Act and the rules of the FL Board of Massage Therapy (Chapter 480, F.S.; Chapter 64b7; Chapter 456).
08.0 Demonstrate knowledge of basic business practices and standards.

Florida Department of Education
Student Performance Standards

Program Title: **Massage Therapy**
PSAV Number: **H120406**

Course Number: MSS0204 **Occupational Completion Point: A** **Massage Therapy 1 – 375 Hours – SOC Code 31-9099**	
01.0	Demonstrate the ability to communicate effectively as a medical therapy professional. -– The student will be able to:
01.01	Demonstrate knowledge of professional communication, active listening skills, and ability to interview the client/patient to ascertain his/her indications and/or contraindications for therapy.
01.02	Demonstrate knowledge and use of appropriate medical terminology and ability to perform proper S.O.A.P (Subjective, objective, assessment and plan) notation in the field of massage therapy.
01.03	Demonstrate knowledge of the “Patients’ Bill of Rights and informed consent.
01.04	Identify and demonstrate Health Insurance Portability and Accountability Act (HIPAA) standards within the massage therapy treatment and business setting.
02.0	Demonstrate an understanding of human anatomy and physiology, kinesiology and pathology as related to the practice of massage therapy. – The student will be able to:
02.01	Explain the structure and function of all the body systems, organs, tissues and cells with emphasis on origins, insertions and actions of muscles.
02.02	Explain the concept of homeostasis and how it relates to massage therapy and its modalities.
02.03	Explain the effects of massage on the human body.
02.04	Demonstrate a basic knowledge of kinesiology.
02.05	Demonstrate a basic knowledge of various body systems’ pathology.
03.0	Exhibit an understanding of the principles of the theories of therapeutic massage and demonstrate the proper techniques of massage manipulations – The student will be able to:
03.01	Demonstrate knowledge of the history of massage therapy and historical practitioners.
03.02	Explain the mechanical, reflexive and physiologic chemical effects of Swedish massage.
03.03	Demonstrate knowledge of the effects, usage, indications and contraindications of various lubricants in massage therapy and apply appropriately.
03.04	Demonstrate awareness of professional boundaries using acknowledgement of body language, verbal communication and cultural cues.

	03.05	Practice proper body mechanics.
	03.06	Accurately perform all Swedish massage strokes and manipulations.
	03.07	Demonstrate Proper client/patient positioning, support and draping techniques.
	03.08	Demonstrate an understanding of initial treatment plan assessment, & re-assessment and treatment indications and contraindications of massage therapy.
	03.09	Apply various massage therapy techniques properly when presented with various pathological conditions and contraindications.
	03.10	Effectively operate common massage therapy equipment.
04.0	Demonstrate the recommended safety, hygiene and health practices for the massage therapist. --The student will be able to:	
	04.01	Explain the ways a massage establishment should be planned and maintained to promote health and safety including fire, disaster and evacuation procedures.
	04.02	Outline practices conducive to personal health, hygiene and appearance.
	04.03	Demonstrate knowledge of measures conducive to eliminating medical errors
	04.04	Demonstrate an understanding of diseases caused by blood borne pathogens including HIV/AIDS and their legal aspects (i.e. testing).

Course Number: MSS0209 **Occupational Completion Point: B** **Massage Therapy 2 – 375 Hours – SOC Code 31-9011**		
05.0	Exhibit an understanding of the principles of the theory of hydrotherapy and use hydrotherapy modalities. --The student will be able to:	
	05.01	Explain the effects of hydrotherapy on the human body.
	05.02	Interview the clients/patients to ascertain their indications and/or contraindications for hydrotherapy.
	05.03	Appropriately perform hydrotherapy services such as thermal therapy and cryotherapy.
	05.04	Demonstrate knowledge of accepted temperature and time standards for hydrotherapy techniques.
	05.05	Educate clients/ patients in the use of various hydrotherapy self-care techniques.
06.0	Explain and appropriately apply allied modalities related to massage therapy. –The student will be able to:	
	06.01	Identify various modalities utilized within the scope of practice of massage therapy.
	06.02	Identify allied modalities outside the scope of massage therapy for the purposes of referral.

	06.03	Explain the effects on the human body while utilizing various massage allied modalities.
	06.04	Educate clients/patients in the use of various self-care techniques and applications including stretching and joint movement.
07.0	Demonstrate knowledge of ethical practice standards and the statutes and rules of Florida Massage Practice Act and the rules of the FL Board of Massage Therapy (Chapter 480, F.S.; Chapter 64b7; Chapter 456). – The student will be able to:	
	07.01	State the purpose of the Massage Practice Act. (Chapter 480, F.S.)
	07.02	State the qualifications necessary for licensure and renewal of license.
	07.03	State the function of the Board of Massage Therapy and the Department of Health.
	07.04	State the conditions necessary for acceptance for examination for licensure.
	07.05	State the requirements for massage therapy establishments and their inspection.
	07.06	Understand the grounds for which disciplinary actions may be taken by the Board of Massage Therapy.
	07.07	Define the terms: Board, Department, Massage Therapist, Apprentice, Inactive Licensure, Massage Establishment, Certification and Licensure.
	07.08	Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.
	07.09	Demonstrate knowledge of ethical conduct in the massage therapy practice and the responsibility to report ethical violations.
	07.10	Discuss the massage therapists' responsibility to report abuse including domestic violence and neglect per the vulnerable persons act.
08.0	Demonstrate knowledge of basic business practices and standards. --The student will be able to:	
	08.01	Define basic business practices and standards, including basic components of public private government and nonprofit healthcare delivery systems.
	08.02	Identify the function, roles and responsibilities of the massage therapist as part of the health care team.
	08.03	List the advantages and disadvantages of business ownership
	08.04	Identify the necessary personal characteristics of a successful entrepreneur and a successful employee.
	08.05	Demonstrate the ability to create a resume and find employment opportunities with the use of current technology.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Laboratory Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

This program has been daggered for deletion with 2016-2017 being the last cohort of students permitted to enroll in the program. After 2016-2017, no new students may be enrolled in this program. Beginning in 2017-2018, new students should be enrolled in Dental Laboratory Technology (H170108).

PSAV	
Program Number	H170103
CIP Number	0351060300
Grade Level	30, 31
Standard Length	2040 Hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	51-9081 Dental Laboratory Technicians 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for entry level employment as dental laboratory technicians SOC code 51-9081, denture technicians crown & bridge technicians, ceramic & technicians or to provide supplemental training for persons previously or currently employed in this occupation.

The content of the program includes, but is not limited to, general studies, physical sciences, dental sciences, and dental laboratory techniques.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 6 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	DEN LABTEC 7G	90 hours	31-9099
	DEA0705	Denture Technician 1		345 hours	31-9099
B	DEA0713	Denture Technician 2		345 hours	31-9099
C	DEA0706	Advanced Denture Technician		375 hours	31-9099
D	DEA0709	Crown And Bridge Technician		370 hours	31-9099
E	DEA0710	Ceramic Technician		245 hours	31-9099
F	DEA0005	Dental Laboratory Technician		270 hours	51-9081

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.
13.0 Practice quality assurance, safety and infection control.
14.0 Adhere to legal and ethical principles related to the practice of dental laboratory technology.
15.0 Demonstrate knowledge of effective business management techniques.
16.0 Demonstrate knowledge of dental sciences.
17.0 Dental Materials II: Demonstrate knowledge of physical and mechanical properties of metals and alloys.
18.0 Complete Dentures: Manufacture various methods of complete denture construction.
19.0 Practical Cases I: Manufacture complete denture construction on practical work received from dental clinic.
20.0 Removable Partial Dentures: Manufacture and identify components of a removable partial denture.
21.0 Orthodontic/Pedodontic Appliances: Manufacture orthodontic and pedodontic appliances.
22.0 Fixed Prosthodontics: Demonstrate knowledge and skills required to manufacture single and multi unit restorations.
23.0 Occlusion: Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.
24.0 Practical Cases II: Manufacture restorations in the student's specialty for patients who receive treatment at the dental research clinic.
25.0 Dental Ceramics: Demonstrate knowledge of basic concepts of porcelain-fused-to-metal techniques.
26.0 Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.
27.0 Specialization In Fixed Appliances: Perform select proficiency in fixed restorative techniques in chosen areas of specialization.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Laboratory Technology**
PSAV Number: **H170103**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: DEA0705 **Occupational Completion Point: B** **Denture Technician 1 – 345 Hours – SOC Code 31-9099**	
12.0	Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.--The student will be able to:
12.01	Identify structures and functions of head and neck anatomy.
12.02	Identify embryonic development of head, oral cavity and individual teeth.
12.03	Identify each tooth and its landmarks.
13.0	Practice quality assurance, safety and infection control.--The student will be able to:
13.01	Practice safety in accordance with institutional policy.
13.02	Identify documentation procedures necessary to comply with state laws.
13.03	Demonstrate knowledge of the dental laboratory technician's role in providing quality assurance in laboratory procedures, reporting, and use and maintenance of equipment.
13.04	Use appropriate dental terminology and abbreviations.
13.05	Demonstrate knowledge, principles, and methods of disease transmission and prevention as related to dental prostheses.

	13.06 Demonstrate knowledge of infection control in dental laboratories in accordance with Center for Disease Control (CDC)/OSHA guidelines.
	13.07 Implement appropriate Joint Commission patient safety goals.
14.0	Adhere to legal and ethical principles related to the practice of dental laboratory technology.--The student will be able to:
	14.01 Demonstrate knowledge of the importance of observing the doctor/technician relationship.
	14.02 Demonstrate knowledge of state law governing the practice of Dental Laboratory Technology.
15.0	Demonstrate knowledge of effective business management techniques.--The student will be able to:
	15.01 Demonstrate knowledge and use of an office/laboratory procedure manual.
	15.02 Demonstrate knowledge and use of business finance and operating expenses.
	15.03 Demonstrate knowledge of pay scale and benefit program for employees and a bookkeeping system.
	15.04 Demonstrate knowledge of tax forms, payroll records, insurance needs and inventory needs.
	15.05 Demonstrate knowledge of employee hiring orientation.
	15.06 Demonstrate knowledge of computer applications in the dental laboratory.

Course Number: DEA0713 Occupational Completion Point: B Denture Technician 2 – 345 Hours – SOC Code 31-9099	
16.0	Demonstrate knowledge of dental sciences--The student will be able to:
	16.01 Demonstrate knowledge of physical properties, use and manipulation of dental materials.
	16.02 Demonstrate knowledge of the dynamics of occlusion.
	16.03 Demonstrate problem-solving skills as related to dental materials.
17.0	Dental Materials II: Demonstrate knowledge of physical and mechanical properties of metals and alloys.--The student will be able to:
	17.01 Identify how dental materials are affected by changes in the physical and mechanical properties of the materials.
	17.02 List characteristics of a metal.
	17.03 Identify the mechanical properties of cast alloys and cold worked metal, strain hardening, recrystallization, and grain growth.

17.04	Identify the metals and percentages in all types of dental casting gold alloys and how different alloys of dental gold casting affect the dental restorations.
17.05	Identify heat treatment techniques for dental casting gold alloys.
17.06	List the types, composition and uses of dental solders/
17.07	Identify composition and uses of dental fluxes and pickling agents.
17.08	Identify composition, physical and mechanical properties and heat treatment techniques for base metal alloys, chrome cobalt and nickel chrome.
17.09	Identify types of bores used in dentistry and the mechanics of cutting.
17.10	Identify abrasion and polishing dentifrices used in the dental lab and how each affects the dental restoration.
18.0	Complete Dentures: Manufacture various methods of complete denture construction.--The student will be able to:
18.01	Make casts by pouring all types of impression material to include dentulous and edentulous impressions.
18.02	Construct base plates by either the sprinkle method, roll on techniques and vacuum press matching.
18.03	Construct wax occlusion rims to exact specifications.
18.04	Articulate cast upon which complete dentures are to be made on 1 plain line and semi adjustable articulators.
18.05	Set-up and wax-up complete upper and lower dentures.
18.06	Manufacture temporary all-acrylic removable partial dentures.
18.07	Repair any and all types of dentures.
18.08	Manufacture immediate complete dentures.
18.09	Relining complete dentures (upper and lower).
18.10	Perform selective milling grinding in the finishing of complete dentures.
19.0	Practical Cases I: Manufacture complete denture construction on practical work received from dental clinic. --The student will be able to:
19.01	Make stone or plastic casts by pouring all types of impressions, both dentulous and semi-edentulous impressions, be it alginate, rubber base or silicone.
19.02	Construct an acrylic or shellac base plate and stabilized tray if so ordered on the prescription by the doctor.
19.03	Construct wax occlusal rim to exact measurements.
19.04	Be able to articulate casts on a plain line or semi-adjustable articulator.

	19.05 Set-up and wax-up cases.
	19.06 Invest, pack, cure, deflask, finish, and polish.
	19.07 Repair dentures, flange, adding teeth or clasp if needed to denture.
	19.08 Reline any upper or lower denture

Course Number: DEA0706 **Occupational Completion Point: C** **Advanced Denture Technician – 375 Hours – SOC Code 31-9099**	
20.0	Removable Partial Dentures: Manufacture and identify components of a removable partial denture. --The student will be able to:
	20.01 Survey and design maxillary and mandibular removable partial denture framework.
	20.02 Block out and duplicate master cast.
	20.03 Identify, explain, and use a variety of clasps.
	20.04 Wax-up, sprue, invest, burnout and cast precious and non-precious alloy frames.
	20.05 Finish and polish metal frames and arrange artificial teeth.
	20.06 Bounding of wrought wire and perform various repairs.
21.0	Orthodontic/Pedodontic Appliances: Manufacture orthodontic and pedodontic appliances. --The student will be able to:
	21.01 Identify and describe various types of malocclusion as presented in the course.
	21.02 Identify and know the treatment objectives of the orthodontic appliances presented in the course.
	21.03 Interpret work authorization for orthodontic appliances.
	21.04 Complete the assigned laboratory exercises in the course to the standard of clinically acceptable quality.

Course Number: DEA0709 **Occupational Completion Point: D** **Crown and Bridge Technician – 370 Hours – SOC Code 31-9099**	
22.0	Fixed Prosthodontics: Demonstrate knowledge and skills required to manufacture single and multi unit restorations.--The student will be able to:
	22.01 Pour impression to make casts with removable dies.

	22.02 Prepare dies for waxing.
	22.03 Manufacture wax patterns for inlays, onlays, 3/5 crowns, and full crowns.
	22.04 Demonstrate proper techniques in spruing, investing and casting
	22.05 Finish all metal cast restorations.
	22.06 Demonstrate proper and accurate soldering skills.
	22.07 Apply an acrylic veneer to a crown and finish in an acceptable manner.
	22.08 Construct a two-piece post crown.
	22.09 Construct an all metal, lower posterior, three-unit bridge.
23.0	Occlusion: Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.--The student will be able to:
	23.01 Identify fundamental occlusion patterning associated with the basic mandibular positions.
	23.02 Dr's Angle's occlusal classifications.
	23.03 Cusp types from the functional point of view.
	23.04 Identify the incisal edges and cusps tips of maxillary teeth to mandibular teeth in centric occlusion.
	23.05 Correlation of maxillary and mandibular cusps.
	23.06 Mandibular movements.
	23.07 Function occlusion.
24.0	Practical Cases II: Manufacture restorations in the students specialty for patients who receive treatment at the dental research clinic.--The student will be able to:
	24.01 Complete denture set-up, wax-up and finish.
	24.02 Perform basic complete denture relines.
	24.03 Demonstrate knowledge of denture repairs.
	24.04 Removable partial denture wax-up, casting and finish.
	24.05 Manufacture a Hawley appliance.
	24.06 Manufacture space maintainer.

	24.07 Cast restorations to include: inlay, full crown, acrylic, veneer crown, PFM restoration.

Course Number: DEA0710 Occupational Completion Point: E Ceramic Technician – 245 Hours – SOC Code 31-9099	
25.0	Dental Ceramics: Demonstrate knowledge of basic concepts of porcelain-fused-to-metal techniques.--The student will be able to:
	25.01 Describe the components of dental porcelain.
	25.02 Describe the early porcelain-fused-to-metal systems.
	25.03 Identify various alloys used in the fabrication of PFM restorations.
	25.04 Identify and explain the uses of opaque, body, incisal, modifier, glaze and stain porcelains.
	25.05 Demonstrate proper metal design for individual and multiple-unit PFM restorations.
	25.06 Demonstrate proper spruing, investing, burnout, casting and metal finishing techniques.
	25.07 Describe the concept of degassing and metal porcelain bonding.
	25.08 Demonstrate approved techniques for opaque, body and incisal porcelain application.
	25.09 Identify various porcelain firing cycles.
	25.10 Demonstrate approved techniques for contouring and glazing porcelain.
	25.11 Describe the basic concepts of staining, the color wheel and hue, chroma and value.
	25.12 Demonstrate and understanding of porcelain furnace calibration and maintenance.

Course Number: DEA0005 Occupational Completion Point: F Dental Laboratory Technician – 270 Hours – SOC code 51-9081	
26.0	Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.--The student will be able to:
	26.01 Survey and design a maxillary and mandibular removable partial denture.
	26.02 Identify and explain the use of wax in a wide variety of clasps.
	26.03 Duplicate master casts.
	26.04 Sprue and invest waxed partial denture castings.

	26.05 Finish and polish a removable partial denture casting.
27.0	Specialization In Fixed Appliances: Perform select proficiency in fixed restorative techniques in chosen areas of specialization.--The student will be able to:
	27.01 Manufacture fixed restorations more quickly and with increased skill.
	27.02 Demonstrate in thorough understanding of the procedures involved in the fabrication of fixed restorations.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Laboratory activities are integrated with the didactic portion of this program. Students perform representative tasks in the manufacture of custom made dental devices and become involved in the dental health team through first hand observation in clinical procedures as they relate to laboratory techniques.

Special Notes

Reinforcement of basic skills in English, mathematics and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association. Students should be prepared to take the recognized graduate examination offered by the National Board For Certification in Dental Laboratory technology, Inc.

Dental Laboratory Technician And Management – Students receive an Associate in Science degree upon successful completion of the program and are prepared to take the recognized graduate examination offered by the National Board of Certification for Dental Laboratory Technicians.

Dental Laboratory Technicians will complete the certificate program and be prepared to take the recognized graduate examination offered by the National Board of Certificate for Dental Laboratory Technicians.

This program meets the Department of Health HIV/AIDS Domestic Violence and Prevention of Medical Errors education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The standard length of the program is 2040 clock hours which includes 90 clock hours for the Health Science Core.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170106
CIP Number	0351060112
Grade Level	30, 31
Standard Length	1230 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 31-9091 Dental Assistants
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as dental assistants (SOC code 31-9091) and to take the Dental Assisting National Board Examination. The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association and standards recommended by the Florida Board of Dentistry.

The content includes, but is not limited to, dental office and patient management, basic dental laboratory procedures, dental and general anatomy, dental terminology, nutrition, dental instrument and equipment utilization, microbiology, dental pharmacology and anesthesia, chairside assisting and expanded functions, dental office emergencies/CPR, dental radiography, maintenance and asepsis of dental operatory and instrumentation,

dental specialty procedures, employability skills, leadership and human relations skills, ethics and jurisprudence, dental materials and preventive dentistry.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	DEA0725	Introduction to Dental Assisting	DENTL ASST @7 7G	90 hours	31-9099
B	DEA0726	Dental Infection Control Assistant		210 hours	31-9099
C	DEA0727	Dental Assisting 1		465 hours	31-9091
	DEA0728	Dental Assisting 2		465 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the dental health care delivery system and dental health occupations.
02.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas.
03.0 Describe the legal and ethical responsibilities of the dental health care worker.
04.0 Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts.
05.0 Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance.
06.0 Recognize and respond to emergency situations.
07.0 Use information technology tools.
08.0 Explain the importance of employability skills.
09.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
10.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
11.0 Use dental terminology.
12.0 Identify structures and explain functions and pathologies of dental and general head and neck anatomy.
13.0 Identify principles of microbiology and disease prevention and perform infection control procedures.
14.0 Identify, describe, maintain and utilize dental instruments and equipment.
15.0 Record patient assessment and treatment data.
16.0 Identify the functions of pharmacology and anesthesia as they relate to dentistry
17.0 Identify and perform dental and carpal radiographic procedures.
18.0 Identify properties and uses, and manipulate dental materials.
19.0 Perform chairside assisting for general dentistry and specialty procedures.
20.0 Describe principles and perform techniques of preventive dentistry.
21.0 Perform general dental business office procedures.
22.0 Demonstrate professionalism as a dental team member in the clinical setting.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Assisting**
Program Number: **H170106**

Course Number: DEA0725 **Occupational Completion Point: A** **Introduction to Dental Assisting – 90 Hours – SOC Code 31-9099**	
01.0	Demonstrate knowledge of the dental health care delivery system and dental health occupations – The student will be able to:
01.01	Identify the basic components of the dental health care delivery system including public, private, government and non-profit.
01.02	Describe the various types of dental health care providers and the range of services available.
01.03	Describe the composition and functions of a dental health care team
01.04	Identify the general roles and responsibilities of the individual members of the dental health care team.
01.05	Identify the roles and responsibilities of the consumer within the dental healthcare system.
01.06	Explain the cause and effects of factors that influence the current delivery system of dental healthcare.
01.07	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on the dental healthcare delivery system.
01.08	Discuss the history of dentistry.
02.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas – The student will be able to:
02.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
02.04	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writin
02.05	Recognize components of medical and dental terminology and abbreviations.
02.06	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relatio
02.07	Recognize the importance of patient education regarding dental and health care.

02.08	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic religious groups.
02.09	Identify psychological considerations influencing communication and behaviors.
03.0	Describe the legal and ethical responsibilities of the dental health care worker – The student will be able to:
03.01	Identify areas of Florida Statute 466 and Rule 64B5-16 FAC and Rule 64B5-25 FAC applicable to practice by the dental health worke
03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
03.03	Demonstrate procedures for accurate documentation and record keeping.
03.04	Interpret healthcare facility policy and procedures.
03.05	Explain the patients' "Bill of Rights."
03.06	Identify and implement standards of the Health Insurance Portability and Accountability Act (HIPAA).
03.07	Distinguish between express, implied and informed consent.
03.08	Explain the laws governing harassment, labor and employment.
03.09	Differentiate between legal and ethical issues in dentistry.
03.10	Describe a Code of Ethics consistent with the dental assisting profession.
03.11	Identify and compare personal, professional and organizational ethics.
03.12	Recognize the limits of authority and responsibility of dental health care workers including legislated scope of practice.
03.13	Recognize and report illegal and/or unethical practices of dental health care workers.
03.14	Recognize and report abuse including domestic violence and neglect.
03.15	Identify resources to victims of domestic violence.
03.16	Explain risk management.
04.0	Demonstrate an understanding of general anatomy and physiology and apply wellness and disease concepts – The student will be able to:
04.01	Develop a basic understanding of the structure and function of the body systems
04.02	Identify common disorders related to each of the body systems.
04.03	Explain basic concepts of positive self-image, wellness and stress.

	04.04 Develop a wellness and stress control plan that can be used in personal and professional life.
05.0	Demonstrate the importance of health, safety, and environmental management systems in dental organizations and their importance to organizational performance and regulatory compliance – The student will be able to:
	05.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	05.02 Identify and describe methods in medical error reduction and prevention in the dental healthcare setting.
	05.03 Demonstrate an understanding of personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.04 Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
	05.05 Demonstrate procedures for the safe transport and transfer of patients.
	05.06 Describe fire safety, disaster and evacuation procedures.
	05.07 Explain emergency procedures to follow in response to workplace accidents.
	05.08 Demonstrate handwashing and the use of personal protective equipment used in dentistry.
06.0	Recognize and respond to emergency situations – The student will be able to:
	06.01 Take and record vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
07.0	Use information technology tools – The student will be able to:
	07.01 Define terms and demonstrate basic computer skills.
	07.02 Interpret information from electronic medical documents.
08.0	Explain the importance of employability skills – The student will be able to:
	08.01 Identify personal traits or attitudes desirable in a member of the healthcare team.
	08.02 Exemplify basic professional standards of dental healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	08.03 Maintain a career portfolio to document knowledge, skills, and experience.
	08.04 Write an appropriate resume.
	08.05 Conduct a job search and complete a job application form correctly.

	08.06	Demonstrate competence in job interview techniques.
	08.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	08.08	Examine licensing, certification, and industry credentialing requirements.
09.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS – The student will be able to:	
	09.01	Recognize emerging diseases and disorders.
	09.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	09.03	Identify "at risk" behaviors that promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	09.04	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	09.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	09.06	Demonstrate knowledge of the legal aspects of AIDS, including testing.
10.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives – The students will be able to:	
	10.01	Analyze attributes and attitudes of an effective leader.
	10.02	Recognize factors and situations that may lead to conflict.
	10.03	Demonstrate effective techniques for managing team conflict.

Course Number: DEA0726 Occupational Completion Point: B Dental Infection Control Assistant – 210 Hours – SOC Code 31-9099		
11.0	Use dental terminology -- The student will be able to:	
	11.01	Identify and define common dental terms.
	11.02	Demonstrate the use of proper dental terminology in the dental environment.
12.0	Identify structures and explain functions and pathologies of dental and general head and neck anatomy -- The student will be able to:	
	12.01	Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, lymph nodes, nerves, and blood vessels.
	12.02	Identify embryonic development of head, oral cavity, and teeth.

	12.03	Identify teeth and their landmarks, and the morphological characteristics of each individual tooth.
	12.04	Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.
	12.05	Recognize and describe oral pathological conditions, related to the teeth and their supporting structures.
	12.06	Recognize and describe developmental anomalies related to the teeth, face, and oral structures.
	12.07	Describe and differentiate between normal and malocclusion.
	12.08	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the oral cavity.
13.0	Identify principles of microbiology and disease prevention and perform infection control procedures -- The student will be able to:	
	13.01	Differentiate between pathogenic and non-pathogenic microorganisms.
	13.02	Describe pathogens and modes of disease transmission.
	13.03	Differentiate between aseptic and non-aseptic environments.
	13.04	Describe and apply methods of cleaning, disinfection, and sterilization.
	13.05	Identify chemicals and their uses for controlling the spread of disease in the dental environment
	13.06	Identify and practice the current CDC guidelines for infection control in dental healthcare settings.
	13.07	Describe the duties of the dental office safety coordinator
	13.08	Demonstrate compliance with the OSHA Bloodborne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.
	13.09	Identify and manage hazardous chemicals and biomedical wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200), 64E-16 F.A.C., and Environmental Protection Agency regulations.
	13.10	Define principles of infection control including standard and transmission based precautions.
	13.11	Demonstrate knowledge of dental asepsis
	13.12	Implement appropriate handwashing procedures and use of protective barriers
	13.13	Demonstrate knowledge of surgical asepsis and isolation.
14.0	Identify, describe, maintain and utilize dental instruments and equipment.--The student will be able to:	
	14.01	Identify various types, functions and operations of dental operatory and laboratory equipment.
	14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.

14.03	Maintain dental operatory equipment and instruments.
14.04	Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.
14.05	Seat and dismiss patients.
14.06	Operate oral evacuation devices and air/water syringe.
14.07	Maintain a clear field of vision including isolation techniques.
14.08	Perform a variety of instrument transfers to include four-handed dentistry.
14.09	Utilize appropriate chairside assistant ergonomics.

Course Number: DEA0727 Occupational Completion Point: C Dental Assisting 1 – 465 Hours – SOC Code 31-9091	
15.0	Record patient assessment and treatment data -- The student will be able to:
15.01	Take and record medical-dental histories.
15.02	Record assessment of existing oral conditions.
15.03	Record conditions diagnosed by the dentist.
15.04	Record treatment-related data on the patient's clinical record
15.05	Record treatment plan and treatment in patient's chart
15.06	Perform a visual assessment of existing oral conditions.
15.07	Distinguish between and report subjective and objective information.
15.08	Report relevant information in order of occurrence.
16.0	Identify the functions of pharmacology and anesthesia as they relate to dentistry -- The student will be able to:
16.01	Identify drug requirements, agencies, and regulations.
16.02	Distinguish among the five schedules of controlled substances.
16.03	Record a drug prescription in a patient's chart.
16.04	Utilize ratios and proportional problems to calculate prescribed drug dosages.

	16.05 Identify drug actions, side effects, indications and contraindications; verify with Physician's Desk Reference or its equivalent.
	16.06 Identify common drugs used in dentistry.
	16.07 Prepare and apply topical anesthetic agent.
	16.08 Identify properties of anesthetics.
	16.09 Prepare syringes for the administration of local anesthetics.
	16.10 Monitor and identify precautions in the use of nitrous oxide-oxygen conscious sedation.
	16.11 Calculate the percentage of nitrous oxide-oxygen delivered during a conscious sedation procedure.
	16.12 Identify drugs and agents used for treating dental-related infection
	16.13 Identify and respond to dental office emergencies
17.0	Identify and perform dental and carpal radiographic procedures -- The student will be able to:
	17.01 Describe history, physics and biological effects of ionizing radiation.
	17.02 Identify parts of the X-ray machine including accessories.
	17.03 Demonstrate radiologic health protection techniques.
	17.04 Describe dark room/processing procedures, mix solutions.
	17.05 Describe the proper disposal of hazardous radiographic waste.
	17.06 Place and expose dental radiographic films or phosphors and digital sensors.
	17.07 Perform extraoral and carpal radiography as required for dental diagnostic procedures.
	17.08 Identify radiographic anatomical landmarks and pathologies.
	17.09 Mount radiographic surveys.
	17.10 Describe how to maintain unexposed film inventory and storage.
	17.11 Maintain digitally acquired radiographic images.
18.0	Identify properties and uses, and manipulate dental materials -- The student will be able to:
	18.01 Identify properties and uses and manipulate gypsum.

18.02	Identify properties and uses and manipulate restorative materials.
18.03	Identify properties and uses and manipulate dental cements.
18.04	Place and remove matrices as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.05	Place and remove temporary restorations as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.06	Identify properties and uses and manipulate impression materials.
18.07	Make intraoral impressions as permitted by Florida Statute and Florida Board of Dentistry Rule.
18.08	Identify properties and uses and manipulate acrylics and thermoplastics.
18.09	Identify properties and uses and manipulate waxes.
18.10	Perform dental laboratory procedures to include the fabrication of casts, custom trays, and temporary crowns and bridges.
18.11	Identify and manage hazardous dental materials and wastes in accordance with the OSHA Hazard Communications Standard (29CFR-1910.1200) and Environmental Protection Agency regulations.
18.12	Employ measurements of time, temperature, distance, capacity, and mass/weight during the manipulation of dental materials.
19.0	Perform chairside assisting for general dentistry and specialty procedures. The student will be able to:
19.01	Describe procedures, equipment, materials, and instrumentation used in the dental specialties to include but not limited to periodontics, endodontics, pedodontics, oral surgery, orthodontics, and prosthodontics.
19.02	Assemble tray set-ups for general and specialty dental procedures.
19.03	Assist in general and specialty dental procedures.
19.04	Perform patient education to include pre- and post-operative instructions as prescribed by a dentist.
19.05	Describe procedures, equipment, and materials utilized in digital dentistry to include CAD/CAM Technology.

Course Number: DEA0728
Occupational Completion Point: C
Dental Assisting 2 – 465 Hours – SOC Code 31-9091

20.0	Describe principles and perform techniques of preventive dentistry -- The student will be able to:
20.01	Provide patient preventive education and oral hygiene instruction.
20.02	Prepare and set up for various preventive procedures.
20.03	Identify properties and uses of abrasive agents used to polish coronal surfaces and appliances.

20.04	Perform coronal polish and apply anticariogenic and desensitizing treatments as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.05	Clean and polish removable dental appliances.
20.06	Assist with and place dental dams as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.07	Apply dental sealants as permitted by Florida Statute and Florida Board of Dentistry Rule.
20.08	Identify the elements of nutrition, basic food groups, and acceptable diets as recommended by the U.S. Department of Agriculture.
20.09	Identify dietary deficiencies and dietary practices that contribute to the manifestation of symptoms in the oral cavity.
20.10	Identify community dental resources and services available.
21.0	Perform general dental business office procedures -- The student will be able to:
21.01	Maintain appointment control.
21.02	Maintain an active recall system.
21.03	Prepare and maintain accurate patient records.
21.04	Prepare and maintain patient financial records, collect fees.
21.05	Prepare and maintain office financial records.
21.06	Prepare and maintain dental office inventory control and purchasing.
21.07	Demonstrate public relations responsibilities of the secretary/receptionist.
21.08	Demonstrate skills on office equipment.
21.09	Maintain the dental business office environment.
21.10	Receive and dismiss patients and visitors.
21.11	Demonstrate appropriate patient management/customer service skills.
21.12	Describe the effect of money management on practice goals.
22.0	Demonstrate professionalism as a dental team member in the clinical setting – The student will be able to:
22.01	Perform dental assisting duties, dental assisting expanded functions, and dental radiographic procedures in a clinical setting under the direct supervision of a licensed dentist.
22.02	Interact with a professional dental team in the delivery of patient services.

22.03 Utilize employability skills.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Field Internship Activities: Clinical experiences are integrated with the didactic portion of this program. Clinical experience assisting a dentist must be an integral part of the educational program designed to perfect students' competence in performing dental assisting functions, rather than to provide basic instruction. The major portion of the students' time in clinical assignments must be spent assisting with or participating in patient care. Prior to clinical assignments, students demonstrate minimum competence in performing the procedures which they will be expected to perform in their clinical experience.

Special Notes

Dental assisting programs accredited by the American Dental Association Commission on Dental Accreditation are required to implement enrollment and admissions criteria that include the selection of adult students with a high school diploma, its equivalent, or an advanced degree.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the goals of TECH PREP and is based on the model developed by the Allied Health Articulation Task Force.

This program should meet the most current edition of the American Dental Association Accreditation Standards for Dental Assisting Education Programs. For further information, contact: Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, Illinois 60611.

For Florida information contact the Florida Agency for Health Care Administration (AHCA), Division of Health Quality Assurance, Board of Dentistry, 4052 Bald Cypress Way, Tallahassee, FL 32399, 850/245-4161.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Pursuant to 466.024 F.S., 64B5-16.002 F.A.C. and 64B5-9.011 F.A.C., completers of the dental assisting program may be awarded a certificate verifying formal training which is required for the performance of certain remediable tasks (also known as expanded functions.)

Students should be encouraged to become members and participate in the activities of the professional organization: The American Dental Assistants Association.

Completers of the dental assisting program should be encouraged to take the Dental Assisting National Board (DANB) Certified Dental Assistant (CDA) exam. DANB is recognized by the American Dental Association as the national certification board for dental assistants.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Health Unit Coordinator/ Monitor Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170107
CIP Number	0351070302
Grade Level	30, 31
Standard Length	630 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	43-6013 Medical Secretaries 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to interpersonal skills, medical terminology, legal and ethical responsibilities, safe and efficient work practices, clerical skills, safety and security use of computers, interpretation and transcription of doctors' orders, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3) (b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G MED RECTEC 7G TEC MED !7 G	90 hours	31-9099
B	HIM0076	Health Unit Clerk		410 hours	43-6013
C	HIM0090	Monitor Technician		130 hours	43-6013

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use oral and written communication skills in creating, expressing and interpreting information and ideas.
13.0 Describe the importance of professional ethics and legal responsibilities for the Health Unit Coordinator.
14.0 Interpret and apply medical terminology specific to health unit clerks.
15.0 Organize and maintain efficient work practices.
16.0 Perform clerical duties.
17.0 Perform patient admission, transfer and discharge procedures.
18.0 Prepare discharge/transfer chart for medical records/new unit.
19.0 Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
20.0 Read, interpret, process, coordinate and transcribe physicians' orders.
21.0 Demonstrate an understanding of the Health Unit Coordinators role in the Nutritional Care Department.
22.0 Demonstrate an understanding of the Health Unit Coordinators role in processing diagnostic orders.
23.0 Explain the importance of employability skills and entrepreneurship skills for the Health Unit Coordinator.
24.0 Describe the cardiovascular system
25.0 Identify legal and ethical responsibilities of an EKG Monitor Technician
26.0 Demonstrate knowledge of, apply and use medical instrumentation modalities
27.0 Perform patient care techniques in the health care facility
28.0 Recognize normal and abnormal cardiac telemetry monitoring results.
29.0 Describe common cardiovascular drugs, their actions, use and adverse effects.
30.0 Set up telemetry monitoring, interpret and report abnormal rhythms to the nurse.
31.0 Monitoring, interpret and report abnormal rhythms to the nurse.

Florida Department of Education
Student Performance Standards

Program Title: **Health Unit Coordinator**
PSAV Number: **H170107**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HIM0076
Occupational Completion Point: B
Health Unit Clerk – 410 Hours – SOC Code 43-6013

12.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas. The student will be able to:
12.01	Apply basic speaking and active listening skills including reflection, restatement, and clarification techniques when using the telephone and answering patient call lights.
12.02	Recognize the importance of courtesy and respect for patients and other health care workers and maintain good interpersonal relationships.
12.03	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
12.04	Apply active listening skills to obtain and clarify information.
12.05	Exhibit public relations skills that aid in achieving customer satisfaction including face to face interactions.
12.06	Explain why implementation of the electronic medical record is requiring advanced communication skills for the health unit coordinator (HUC).
12.07	Give instances that exemplify human needs, classify each according to Maslow's hierarchy of human needs, and give appropriate responses to meet the listed needs.
12.08	Define and explain the importance of culturally sensitive care in the health care setting.
12.09	List five guidelines to follow that could improve intercultural communication.

13.0	Describe the importance of professional ethics and legal responsibilities for the Health Unit Coordinator. –The student will be able to:
	13.01 List seven patient rights as outlined in HIPAA.
	13.02 Identify seven patient identifiers (individually identifiable health information [IIHI]).
	13.03 Explain two purposes of the Health Information Technology for Economic and Clinical Health (HITECH) Act.
	13.04 Explain the responsibilities the health unit coordinator (HUC) has for HIPAA compliance.
	13.05 Evaluate alternative responses to workplace situations based on personal, professional, ethical, legal responsibilities, and employer policies.
14.0	Interpret and apply medical terminology specific to health unit clerks. – The student will be able to:
	14.01 Identify components of medical terms.
	14.02 Spell, pronounce and define medical terms, as related to Health Unit Coordinator.
	14.03 Relate medical terminology to the body systems.
	14.04 Identify and define standard abbreviations and medical symbols.
	14.05 Identify apothecary and metric systems.
15.0	Organize and maintain efficient work practices. --The student will be able to:
	15.01 Arrange daily activities by priority.
	15.02 Prepare and post unit information lists.
	15.03 Maintain a supply of assembled medical/surgical admission packets.
	15.04 Distribute forms and articles from in-basket.
	15.05 Identify, store and maintain unit equipment/supplies in a neat and orderly manner.
	15.06 Sanitize nursing station equipment.
	15.07 Maintain par levels of supplies as required by the nursing unit
	15.08 Greet all visitors to the nursing unit and offer assistance as necessary.
16.0	Perform clerical duties. – The student will be able to:
	16.01 Demonstrate knowledge of common software applications relevant to the role of the health unit coordinator.

	16.02 Prepare, label and add forms to chart.
	16.03 Record admission data on unit records.
	16.04 Obtain previous admission records/X-rays.
	16.05 Post all reports on charts.
	16.06 File and retrieve assorted forms.
	16.07 Maintain patient tracking for patients leaving the unit (electronic or paper log).
17.0	Perform patient admission, transfer and discharge procedures. – The student will be able to:
	17.01 List four types of admissions and three types of patients.
	17.02 List the common components of a set of admission orders and common health unit coordinator (HUC) tasks regarding the patient's admission when paper charts are used.
	17.03 Describe how a surgical patient's admission orders differ from a medical patient's admission orders and discuss three options for the way in which patient surgeries are performed.
	17.04 List the components that may be included in a set of pre/postoperative orders.
	17.05 Explain why it is important for the HUC to monitor the patient's electronic medical record (EMR) consistently.
	17.06 Explain the purpose and the benefits of the electronic patient status tracking board for the patient's family and/or friends.
	17.07 Explain what the HUC's responsibility would be regarding all medical records, including patient signed consent forms, handwritten progress notes, and reports faxed or sent from other facilities or brought in by a patient when the EMR with computer physician order entry (CPOE) is implemented.
18.0	Prepare discharge/transfer chart for medical records/new unit. – The student will be able to:
	18.01 List the different types of discharges and explain the importance of communicating pending discharge information and bed availability to the admitting department or bed placement in a timely manner.
	18.02 List the tasks that may be required to complete a routine discharge.
	18.03 List the additional tasks that may be required when a patient is discharged to another facility, discharged home with assistance, or when a patient dies (postmortem).
	18.04 Describe the tasks necessary to prepare the discharged patient's medical record for the health information management services (HIMS) department when paper charts are used.
	18.05 List the tasks that are performed when a patient is transferred from one unit to another.
	18.06 List the tasks performed by the HUC when a patient is transferred from one room to another room on the same unit.
	18.07 Discuss the importance of reading the entire set of discharge or transfer orders prior to the patient being discharged or transferred.

19.0	Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance. – The student will be able to:
19.01	Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
19.02	Participate in emergency or disaster plan, CPR and first aid.
19.03	Identify the location of emergency equipment on the nursing unit.
19.04	Recognize and follow all appropriate emergent code protocols.
19.05	Comply with regulatory agency guidelines.
20.0	Read, interpret, process, coordinate and transcribe physicians' orders. – The student will be able to:
20.01	Identify all types of physician's orders.
20.02	Prioritize orders for transcription.
20.03	Prepare and route requisitions manually or via computer.
20.04	Arrange for ordered consultations.
20.05	Schedule patients' treatments or therapy with other hospital departments.
20.06	List the points of information that should be communicated to the consulting physician’s office when a consultation order is transcribed.
21.0	Demonstrate an understanding of the Health Unit Coordinators role in the Nutritional Care Department. – The student will be able to:
21.01	Explain the importance of communicating diet changes and patient food allergies to the nutritional care department.
21.02	List the groups of diets including nutritional supplements that may be ordered for the hospitalized patient.
21.03	List consistency changes that can be made to a standard diet and explain what is included in each.
21.04	List diet options that may be selected for the patient who has started on clear liquids and has an order for diet as tolerated and explain how the selection would be made.
21.05	Identify therapeutic diets that the patient’s doctor may order.
21.06	Identify diets that may be requested by patients and assist them in ordering appropriate meals.
21.07	List the items an HUC may need to order when transcribing an order for tube feeding.
21.08	Explain the purpose of the doctors’ orders force fluids, limit fluids, and calorie count and discuss the importance of sending all doctors’ orders regarding a patient’s diet or modifications to a patient’s diet to the nutritional care department.
21.09	Discuss the importance of sending total parenteral nutrition (TPN) orders to the pharmacy in a timely manner.

22.0	Demonstrate an understanding of the Health Unit Coordinators role in processing diagnostic orders. – The student will be able to:
22.01	List the major divisions of the clinical laboratory and their functions.
22.02	List six invasive procedures that would require a consent form signed by the patient.
22.03	Describe the health unit coordinator's responsibilities in ordering laboratory tests and sending specimens to the laboratory when EMR is used and when paper charts are used and describe how routine, stat, daily, and timed studies would be ordered and performed.
22.04	Explain how the health unit coordinator's responsibilities regarding diagnostic imaging orders differ with the implementation of the electronic medical record and computer physician order entry versus use of the paper chart.
22.05	List the information regarding the patient that the health unit coordinator must include when ordering procedures to be performed by the diagnostic imaging department.
22.06	Explain when a patient would be required to sign an informed consent before a diagnostic imaging procedure.
22.07	Discuss sequencing or scheduling of multiple diagnostic imaging procedures ordered for the same patient.
22.08	Demonstrate an understanding of other diagnostic studies.
23.0	Explain the importance of employability skills and entrepreneurship skills for the Health Unit Coordinator. – The student will be able to:
23.01	Discuss benefits and responsibilities of the HUC for membership in a professional organization such as the National Association of Health Unit Coordinators.
23.02	Determine how to apply for membership in a professional organization.
23.03	List five benefits of becoming a certified HUC.
23.04	Complete application for certification.
23.05	List three positions in which the HUC may be cross-trained.
23.06	Conduct a job search for HUC positions and complete a job application form correctly.
23.07	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
23.08	Observe professional e-mail practices and etiquette.

Course Number: HIM0090
Occupational Completion Point: C
Monitor Technician – 130 Hours – SOC Code 43-6013

24.0	Describe the cardiovascular system--The student will be able to:

	24.01 Locate the heart and surrounding structures.
	24.02 Diagram and label the parts of the heart and list the functions of each labeled part.
	24.03 Trace the flow of blood through the cardiopulmonary system.
	24.04 Identify and describe the electrical conduction system.
25.0	Identify legal and ethical responsibilities of an EKG Monitor Technician--The student will be able to:
	25.01 Recognize and practice legal and ethical responsibilities as they relate to an EKG Monitor Tech.
	25.02 Maintain a safe and efficient work environment.
	25.03 Maintain EKG monitoring equipment so it will be safe and accurate.
	25.04 Implement appropriate EKG monitoring patient safety goals.
26.0	Demonstrate knowledge of, apply and use medical instrumentation modalities--The student will be able to:
	26.01 Operate cardiac telemetry monitoring equipment related to admitting and discharging patients, trending, changing alarm parameters, changing leads and changing cardiac monitoring paper.
	26.02 Troubleshooting monitor equipment, cleaning and maintaining monitoring equipment.
	26.03 Identify three types of lead systems.
	26.04 Discuss proper lead placement for the most common monitoring leads.
	26.05 Identify artifacts and mechanical problems.
	26.06 Recognize normal sinus rhythm.
	26.07 Report any rhythm that is not normal sinus rhythm.
	26.08 State Einthoven’s triangle.
	26.09 Recognize a cardiac emergency as seen on the EKG monitor.
27.0	Perform patient care techniques in the health care facility--The student will be able to:
	27.01 Identify patient utilizing name, date of birth and room number.
	27.02 Prepare the patient for lead placement.
28.0	Recognize normal and abnormal cardiac telemetry monitoring results.--The student will be able to:

	28.01 Measure waves, segments, complexes, rates and intervals.
	28.02 Identify electrical axis.
	28.03 List purposes for pacemakers and indications for insertion.
	28.04 Recognize Sinus Rhythms including Sinus tachycardia, sinus arrhythmia and sinus pause.
	28.05 Recognize atrial dysrhythmias including atrial fibrillation, atrial flutter and atrial ectopic beats.
	28.06 Recognize junctional dysrhythmias including junctional rhythm, accelerated junctional, junctional tachycardia and junctional ectopic beats.
	28.07 Recognize Supra ventricular tachycardia.
	28.08 Identify all Heart Blocks including First Degree Heart Block, Second Degree Type 1, Second Degree Type 2, Third degree AV and BB level, and Bundle Branch Block.
	28.09 Recognize normal and deviations from all normal pacemaker and internal defibrillator rhythms.
	28.10 Recognize all lethal cardiac dysrhythmias including Ventricular Tachycardia, Ventricular Fibrillation and Asystole.
	28.11 Identify the proper Monitor Tech response to normal and deviations from normal types of myocardial ischemia and infarction.
	28.12 Recognize normal and deviations from normal atrial and ventricular hypertrophies.
	28.13 Recognize normal and deviations from normal extra systole and other rare phenomena.
29.0	Describe common cardiovascular drugs, their actions, use and adverse effects.--The student will be able to:
	29.01 List common cardiovascular drugs and their common effects.
	29.02 Identify and observe a cardiac emergency.
30.0	Set up telemetry monitoring, interpret and report abnormal rhythms to the nurse. –The student will be able to:
	30.01 Apply and turn on telemetry unit.
	30.02 Identify lethal arrhythmias and actions required.
	30.03 Enter and maintain patient identity and location while telemetry in place.
	30.04 Identify the PRI, QRS, QTI, T waves, and heart rate.
31.0	Monitoring, interpret and report abnormal rhythms to the nurse. –The student will be able to:
	31.01 Immediately recognize report and document rhythm changes to the RN.

31.02	Examine monitor ensuring clear tracing, notify RN to replace leads, move leads for clear tracing.
31.03	Records and documents strips correctly during code blue, cardio version or medication administration.
31.04	Receives and gives handoff report.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Transcription of physicians' orders is an integral part of this course. This competency is achieved through simulated practice with standard equipment and supplies used in a health care facility by the health unit coordinator. An overview of anatomy and physiology serves as a foundation for medical terminology and CPR/first aid. A working knowledge of the computer is a competency achieved through actual practice. Role playing is one of the methods which can be used for developing interpersonal skills.

Supervised clinical experience is an integral part of this program.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

It is recommended that completers of this program take the National Association of Health Unit Coordinators Certification examination which is offered annually.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the appropriate career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Dental Laboratory Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170108
CIP Number	0351060306
Grade Level	30, 31
Standard Length	2040 Hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	51-9081 Dental Laboratory Technicians 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for entry level employment as dental laboratory technicians SOC code 51-9081, denture technicians crown & bridge technicians, ceramic & technicians or to provide supplemental training for persons previously or currently employed in this occupation.

The content of the program includes, but is not limited to, general studies, physical sciences, dental sciences, and dental laboratory techniques.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 6 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the post-secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	DTE0400	Orientation to Dental Laboratory Technology	DEN LABTEC 7G	18 hours	31-9099
B	DTE0433	Denture Technician 1		319 hours	31-9099
	DTE0434	Denture Technician 2		319 hours	31-9099
C	DTE0435	Advanced Denture Technician		349 hours	31-9099
D	DTE0441	Crown And Bridge Technician		285 hours	31-9099
E	DTE0461	Ceramic Technician		285 hours	31-9099
F	DTE0451	Implant, Attachment & Hybrid Restoration Technician		285 hours	31-9099
G	DTE0481	Master Dental Laboratory Technician		180 hours	31-9099

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician
02.0 Practice quality assurance, safety and infection control.
03.0 Adhere to legal and ethical principles related to the practice of dental laboratory technology.
04.0 Demonstrate knowledge of effective business management techniques.
05.0 Demonstrate knowledge of dental sciences.
06.0 Demonstrate knowledge of physical and mechanical properties of metals and alloys.
07.0 Manufacture various methods of complete denture construction.
08.0 Manufacture complete denture construction on practical work received from dental clinic.
09.0 Manufacture and identify components of a removable partial denture.
10.0 Manufacture orthodontic and pedodontic appliances.
11.0 Demonstrate knowledge and skills required to manufacture single and multi-unit restorations.
12.0 Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.
13.0 Manufacture restorations in the student's specialty for patients who receive treatment at the dental research clinic.
14.0 Demonstrate knowledge of basic concepts of porcelain-fused-to-metal (PFM) techniques.
15.0 Demonstrate proper design and fabrication for individual and three-unit anterior bridge for pressable system restorations.
16.0 Demonstrate proper design and fabrication for all Ceramics Restorations using Refractory System.
17.0 Demonstrated knowledge of the Standard Components for Implant Systems.
18.0 Demonstrate proper design and fabrication for Implants System.
19.0 Describe the Standard Components and fabrication of semi precision attachments.
20.0 Demonstrate proper design and fabrication of Hybrid Restoration.
21.0 Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.
22.0 Perform select proficiency in fixed restorative techniques in chosen areas of specialization.

Florida Department of Education
Student Performance Standards

Program Title: **Dental Laboratory Technology**
PSAV Number: **H170108**

Course Number: DTE0400 **Occupational Completion Point: A** **Orientation to Dental Laboratory Technology – 18 Hours – SOC Code 31-9099**	
01.0	Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.--The student will be able to:
01.01	Identify structures and functions of head and neck anatomy.
01.02	Identify embryonic development of head, oral cavity and individual teeth.
01.03	Identify each tooth and its landmarks.
02.0	Practice quality assurance, safety and infection control.--The student will be able to:
02.01	Practice safety in accordance with institutional policy.
02.02	Identify documentation procedures necessary to comply with state laws.
02.03	Demonstrate knowledge of the dental laboratory technician's role in providing quality assurance in laboratory procedures, reporting, and use and maintenance of equipment.
02.04	Use appropriate dental terminology and abbreviations.
02.05	Demonstrate knowledge, principles, and methods of disease transmission and prevention as related to dental prostheses.
02.06	Demonstrate knowledge of infection control in dental laboratories in accordance with Center for Disease Control (CDC)/OSHA guidelines.
02.07	Establish an infection control procedures policy for the dental laboratory.
03.0	Adhere to legal and ethical principles related to the practice of dental laboratory technology.--The student will be able to:
03.01	Demonstrate knowledge of the importance of observing the doctor/technician relationship.
03.02	Demonstrate knowledge of state law governing the practice of Dental Laboratory Technology.
04.0	Demonstrate knowledge of effective business management techniques.--The student will be able to:
04.01	Demonstrate knowledge and use of an office/laboratory procedure manual.

04.02	Demonstrate knowledge and use of business finance and operating expenses.
04.03	Demonstrate knowledge of pay scale and benefit program for employees and a bookkeeping system.
04.04	Demonstrate knowledge of tax forms, payroll records, insurance needs and inventory needs.
04.05	Demonstrate knowledge of employee hiring orientation.
04.06	Demonstrate knowledge of computer applications in the dental laboratory.
Course Number: DTE0433 Occupational Completion Point: B Denture Technician 1 – 319 Hours – SOC Code 31-9099	
05.0	Demonstrate knowledge of dental sciences.--The student will be able to:
05.01	Demonstrate knowledge of physical properties, use and manipulation of dental materials.
05.02	Demonstrate knowledge of the dynamics of occlusion.
05.03	Demonstrate problem-solving skills as related to dental materials.
06.0	Demonstrate knowledge of physical and mechanical properties of metals and alloys.--The student will be able to:
06.01	Identify how dental materials are affected by changes in the physical and mechanical properties of the materials.
06.02	List characteristics of a metal.
06.03	Identify the mechanical properties of cast alloys and cold worked metal, strain hardening, recrystallization, and grain growth.
06.04	Identify the metals and percentages in all types of dental casting gold alloys and how different alloys of dental gold casting affect the dental restorations.
06.05	Identify heat treatment techniques for dental casting gold alloys.
06.06	List the types, composition and uses of dental solders.
06.07	Identify composition and uses of dental fluxes and pickling agents.
06.08	Identify composition, physical and mechanical properties and heat treatment techniques for base metal alloys, chrome cobalt and nickel chrome.
06.09	Identify types of burs used in dentistry and the mechanics of cutting.
06.10	Identify abrasion and polishing dentifrices used in the dental lab and how each affects the dental restoration.

Course Number: DTE0434 **Occupational Completion Point: B** **Denture Technician 2 – 319 Hours – SOC Code 31-9099**	
07.0	Manufacture various methods of complete denture construction.--The student will be able to:
07.01	Make casts by pouring all types of impression material to include dentulous and edentulous impressions.
07.02	Construct base plates by either the light cure and/ or thermoforming vacuum press.
07.03	Construct wax occlusion rims to exact specifications.
07.04	Articulate cast upon which complete dentures are to be made on 1 plain line and semi adjustable articulators.
07.05	Set-up and wax-up complete upper and lower dentures.
07.06	Manufacture temporary all-acrylic removable partial dentures.
07.07	Repair any and all types of dentures.
07.08	Manufacture immediate complete dentures complete with surgical tray.
07.09	Relining complete dentures (upper and lower).
07.10	Perform selective milling grinding in the finishing of complete dentures.
08.0	Manufacture complete denture construction on practical work received from dental clinic. --The student will be able to:
08.01	Make stone or plaster casts by pouring all types of impressions, both dentulous and semi-edentulous impressions, be it alginate, rubber base or silicone.
08.02	Construct a light cure or thermoformed vacuum base plate and stabilized tray if so ordered on the prescription by the doctor.
08.03	Construct wax occlusal rim to exact measurements.
08.04	Be able to articulate casts on a plain line or semi-adjustable articulator.
08.05	Set-up and wax-up cases.
08.06	Invest, pack, cure, deflask, finish, and polish.
08.07	Repair dentures, flange, adding teeth or clasp if needed to denture.
08.08	Reline any upper or lower denture.

Course Number: DTE0435 **Occupational Completion Point: C** **Advanced Denture Technician – 349 Hours – SOC Code 31-9099**	
09.0	Manufacture and identify components of a removable partial denture. --The student will be able to:
09.01	Survey and design maxillary and mandibular removable partial denture framework.
09.02	Block out and duplicate master cast.
09.03	Identify, explain, and use a variety of clasps.
09.04	Wax-up, sprue, invest, burnout and cast non-precious alloy frames.
09.05	Finish and polish metal frames and arrange artificial teeth.
09.06	Demonstrate the bending of wrought wire and perform various repairs.
10.0	Manufacture orthodontic and pedodontic appliances. --The student will be able to:
10.01	Identify and describe various types of malocclusion as presented in the course.
10.02	Identify and know the treatment objectives of the orthodontic appliances presented in the course.
10.03	Interpret work authorization for orthodontic appliances.
10.04	Complete the assigned laboratory exercises in the course to the standard of clinically acceptable quality.
Course Number: DTE0441 **Occupational Completion Point: D** **Crown And Bridge Technician – 285 Hours – SOC Code 31-9099**	
11.0	Demonstrate knowledge and skills required to manufacture single and multi-unit restorations.--The student will be able to:
11.01	Pour impression to make casts with removable dies.
11.02	Articulate casts on a semi-adjustable articulator and use various types of articulation systems.
11.03	Prepare dies for waxing.
11.04	Manufacture wax patterns for inlays, onlays, full crowns and multi-unit restorations.
11.05	Demonstrate proper techniques in spruing, investing and casting.
11.06	Finish all metal cast restorations.
11.07	Demonstrate a proper diagnostic wax-up for single and multi-unit restorations.

	11.08 Demonstrate the fabrication of provisional restoration using thermoforming vacuum or putty matrix methods.
	11.09 Construct a single and multi-unit restoration.
	11.10 Finish provisional restoration in an acceptable manner.
	11.11 Construct a post and core with a final restoration.
12.0	Perform basic occlusion, determinants of occlusal morphology and physiology of mandibular movements.--The student will be able to:
	12.01 Identify fundamental occlusion patterning associated with the basic mandibular positions.
	12.02 Identify Dr. Angle's occlusal classifications.
	12.03 Identify cusp types from the functional point of view.
	12.04 Identify the incisal edges and cusps tips of maxillary teeth to mandibular teeth in centric occlusion.
	12.05 Demonstrate the correlation between maxillary and mandibular cusps.
	12.06 Demonstrate an understanding of mandibular movements.
	12.07 Demonstrate an understanding of functional occlusion.
13.0	Manufacture restorations in the students specialty for patients who receive treatment at the dental research clinic.--The student will be able to:
	13.01 Complete denture set-up, wax-up and finish.
	13.02 Perform basic complete denture relines.
	13.03 Demonstrate knowledge of denture repairs.
	13.04 Removable partial denture wax-up, casting and finish.
	13.05 Manufacture a Hawley appliance.
	13.06 Manufacture space maintainer.
	13.07 Fabricate restorations to include: inlay, onlays, full crowns, bridges Porcelain Fused to Metal (PFM) and all ceramic restorations.
	13.08 Manufacture prostheses for patients currently under treatment or from actual casts or impressions and occlusal records from previously fabricated prosthesis.

Course Number: DTE0461 **Occupational Completion Point: E** **Ceramic Technician – 285 Hours – SOC Code 31-9099**	
14.0	Demonstrate knowledge of basic concepts of porcelain-fused-to-metal (PFM) techniques.--The student will be able to:
14.01	Describe the components of dental porcelain.
14.02	Describe the early porcelain-fused-to-metal systems.
14.03	Identify various alloys used in the fabrication of PFM restorations.
14.04	Identify and explain the uses of opaque, body, incisal, modifier, glaze and stain porcelains.
14.05	Demonstrate proper metal design for individual and multiple-unit PFM restorations.
14.06	Demonstrate proper spruing, investing, burnout, casting and metal finishing techniques.
14.07	Demonstrate proper and accurate pre-soldering skills.
14.08	Demonstrate proper and accurate post-soldering skills.
14.09	Describe the concept of degassing and metal porcelain bonding.
14.10	Demonstrate approved techniques for opaque, body and incisal porcelain application.
14.11	Identify various porcelain firing cycles.
14.12	Demonstrate approved techniques for contouring and glazing porcelain.
14.13	Describe the basic concepts of staining, the color wheel and hue, chroma and value.
14.14	Demonstrate and understanding of porcelain furnace calibration and maintenance.
15.0	Demonstrate proper design and fabrication for individual and three-unit anterior bridge for pressable system restorations. -- The student will be able to:
15.01	Demonstrate proper wax-up, spruing and investing.
15.02	Demonstrate proper burnout and pressing.
15.03	Demonstrate proper recovery/ divesting of a pressed crown and bridge.
15.04	Demonstrate proper finishing techniques of a pressed crown and bridge.
16.0	Demonstrate proper design and fabrication for all Ceramics Restorations using Refractory System. -- The student will be able to:
16.01	Pour impression to make casts with removable dies.

16.02	Fabrication of Inlays, Onlays and Veneers using the Refractory System.
Course Number: DTE0451 Occupational Completion Point: F Implant, Attachment & Hybrid Restoration Technician – 285 Hours – SOC Code 31-9099	
17.0	Demonstrated knowledge of the Standard Components for Implant Systems. -- The student will be able to:
17.01	List the standard components of an implant system including:
117.01	Implant / fixture
217.01	Healing Abutment Cover Screw/ Screw
317.01	Abutment
417.01	Temporary Components
517.01	Angulated Abutment
617.01	Impression Coping
717.01	Open tray/closed tray
817.01	Abutment replicas
917.01	Analogue/ Implant Replica
18.0	Demonstrate proper design and fabrication for Implants System. --The student will be able to:
18.01	Demonstrate the fabrication of a Custom Tray for an Implant Case.
18.02	Demonstrate the fabrication of a Surgical Guide Template.
18.03	Demonstrate the pouring of an impression and fabricate a master cast with an abutment replica in place.
18.04	Apply soft tissue silicone material around the abutment replica.
18.05	Screw/Cement-Retained, Castable Substructure.
18.06	Demonstrate proper substructure design: waxing, spruing, investing, burnout, casting and metal finishing techniques for Implant Systems.
18.07	Demonstrate proper design and fabrication of a porcelain fused to metal crown over an implant abutment.
18.08	Demonstrate approved techniques for opaque, body and incisal porcelain application for Implant Systems.
19.0	Describe the Standard Components and fabrication of semi precision attachments. -- The student will be able to:

	19.01 Explain the uses of attachments and stress breakers.
	19.02 Define and explain basic attachments groups and impression needed.
	19.03 Attachment Selection.
	19.04 Demonstrate proper design and fabrication of a Semi Precision Attachment.
	19.05 Explain the advantages and disadvantages of attachments.
	19.06 Semi Precision Attachments versus Precision Attachments.
20.0	Demonstrate proper design and fabrication of Hybrid Restoration. -- The student will be able to:
	20.01 Fabricate a Bar and Clip Retained Overdenture.
	20.02 Fabricate Custom Tray and Master Cast.
	20.03 Fabricate Baseplate and Occlusion Rims.
	20.04 Articulation and Trial Denture.
	20.05 Fabricate a Bar.
	20.06 Demonstrate proper design and fabrication of a Denture over Implants with a Bar.
Course Number: DTE0481 **Occupational Completion Point: G** **Master Dental Laboratory Technician – 180 Hours – SOC Code 51-9081**	
21.0	Specialization Removable Appliances: Demonstrate their skills in removable dentures on specific projects.--The student will be able to:
	21.01 Survey and design a maxillary and mandibular removable partial denture.
	21.02 Identify and explain the use of wax in a wide variety of clasps.
	21.03 Duplicate master casts.
	21.04 Sprue and invest waxed partial denture castings.
	21.05 Finish and polish a removable partial denture casting.
22.0	Perform select proficiency in fixed restorative techniques in chosen areas of specialization.--The student will be able to:
	22.01 Manufacture fixed restorations more quickly and with increased skill.
	22.02 Demonstrate a thorough understanding of the procedures involved in the fabrication of fixed restorations.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Laboratory activities are integrated with the didactic portion of this program. Students perform representative tasks in the manufacture of custom made dental devices and become involved in the dental health team through first hand observation in clinical procedures as they relate to laboratory techniques.

Special Notes

Reinforcement of basic skills in English, mathematics and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

The program should meet the requirements of the Commission on Dental Accreditation of the American Dental Association. Students should be prepared to take the recognized graduate examination offered by the National Board For Certification in Dental Laboratory technology, Inc.

Dental Laboratory Technician And Management – Students receive an Associate in Science degree upon successful completion of the program and are prepared to take the recognized graduate examination offered by the National Board of Certification for Dental Laboratory Technicians.

Dental Laboratory Technicians will complete the certificate program and be prepared to take the recognized graduate examination offered by the National Board of Certificate for Dental Laboratory Technicians.

The standard length of the program is 2040 clock hours.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Electroneurodiagnostic Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170204
CIP Number	0351090300
Grade Level	30, 31
Standard Length	1250 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 10 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as electroneurodiagnostic technologists or SOC 29-2099 Health Technologists & Technicians, all other.

The content includes but is not limited to recording and measurement procedures, EEG techniques, EEG patterns, EP techniques, patient safety, appropriate healthcare, communication, medical terminology, ethical and legal considerations, equipment use, instrument care, troubleshooting, neuroanatomy, neurophysiology, effects of medications on tracings, nerve conduction techniques, neuropathology, basic electronics for biomedical instrumentation, patient history taking, patient rapport, neonatal studies, using portable equipment, other neurodiagnostic procedures,

electrocorticography, techniques of laboratory management, polysomnographic techniques, employability skills, electrical safety, CPR and First Aide.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	ENCEPHALGH 7 G	90 hours	31-9099
B	ETN0005	Electroneurodiagnostic Technologist 1		175 hours	29-2099
	ETN0006	Electroneurodiagnostic Technologist 2		250 hours	
	ETN0007	Electroneurodiagnostic Technologist 3		235 hours	
	ETN0008	Electroneurodiagnostic Technologist 4		250 hours	
	ETN0009	Electroneurodiagnostic Technologist 5		250 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Communicate effectively with patients, family and other health care personnel.
13.0 Take and abstract patient histories.
14.0 Apply recording electrodes and use EEG/EP techniques.
15.0 Operate EEG equipment.
16.0 Perform personal, patient, and equipment electrical safety procedures.
17.0 Select and apply patient specific EEG techniques.
18.0 Recognize and categorize the EEG activity displayed.
19.0 Recognize, identify and/or correct artifacts.
20.0 Manage medical emergencies.
21.0 Recognize and correct instrument faults.
22.0 Debrief patients.
23.0 Demonstrate knowledge of electrocortical and depth recording procedures.
24.0 Demonstrate knowledge for performance of electrocerebral silence recording.
25.0 Prepare descriptive reports of recordings for use by the electroencephalographer.
26.0 Identify skills needed to manage an EEG laboratory.
27.0 Describe how to keep laboratory records.
28.0 Schedule appointments.
29.0 List appropriate supplies needed.
30.0 Demonstrate knowledge of (EP) evoke potential equipment operation.
31.0 Demonstrate knowledge of (NCV) nerve conduction velocity techniques.
32.0 Demonstrate knowledge of (PSG) polysomnographic techniques.

Florida Department of Education
Student Performance Standards

Program Title: **Electroneurodiagnostic Technology**
PSAV Number: **H170204**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: ETN0005
Occupational Completion Point: B
Electroneurodiagnostic Technologist 1 – 175 Hours – SOC Code 29-2099

12.0	Communicate effectively with patients, family, and other health care personnel.--The student will be able to:
12.01	Explain EEG procedure to patient.
12.02	Provide attendant nursing skills for handling severely ill patients and apply emergency procedures.
12.03	Observe patient for stability or changes in respiration, circulation, color, skin moisture, and consciousness level.
12.04	Recognize and report symptoms of abuse and neglect.
12.05	Demonstrate social skills and attitudes appropriate to employment in a health care facility.
12.06	Display respect for patients regardless of race, religion, color, creed, sex, age, or diagnosis.
12.07	Display a professional and positive attitude in dealing with patients.
12.08	Discuss with the patient only that information already known by the patient.
12.09	Discuss the patient's condition only when out of audible range of the patient/family and only with appropriate supervisors.
12.10	Document the clinical condition of the patient.

13.0	Take and abstract patient histories.--The student will be able to:
13.01	Introduce self to patient, identify patient.
13.02	Explain necessity for obtaining information to patient to elicit patient's cooperation within the limits of his/her physical and mental status.
13.03	Review chart for physicians' orders, admission notes, test results, surgical procedures, nurses' notes, physical examination, progress notes and medications administered.
13.04	Question patient for chief complaint, description and sequence of symptoms, past history, family history and note any physical defects.
13.05	List all medications and pertinent information in appropriate places.
13.06	Observe patient and note behavior.
13.07	Abstract the data obtained above.
14.0	Apply recording electrodes and use EEG/EP techniques.--The student will be able to:
14.01	Perform head measurements.
14.02	Apply electrodes according to the specifications of International 10-20 Electrode placement within accuracy tolerances and time limits.
14.03	Describe electrode application, montages, and protocol for neonate recordings and electrocerebral silence study.
14.04	Apply non cerebral monitors for EKG - EOG - EMG and/or reference recording.
14.05	Describe and perform various methods of applications such as electrode paste, collodian, and needle electrode insertion.
14.06	Describe special electrode procedures such as nasopharyngeal, T1/T2 placements, sphenoidal electrodes and prime electrode placements.
14.07	Clean patient hair and scalp of all marks and preparation solutions used during the recording.
15.0	Operate EEG equipment.--The student will be able to:
15.01	Calibrate the EEG instrument in preparation for a procedure by aligning the pen alignment, pen spacing, time axis, electrical baseline, amplitude adjustment, mechanical baseline, measuring the pen deflection at 7mm, listing the electrode impedances, selecting the Bio Cal montage, labeling the parameters of sensitivity, high linear frequency control and low linear frequency control or time constant.
15.02	Perform bio-calibration.
15.03	Adjust and identify instrumentation settings used during the recording of special recordings such as electrocerebral silence procedures.
15.04	Evaluate adequate functioning of equipment and identify different features of various commercial EEG instrumentation.

15.05	Adjust and identify instrumentation settings used during special recordings such as, HLF, LLF, 60Hz, sensitivity, fast and slow paper speeds.
15.06	Select and label routine montages by memory.
15.07	Make appropriate adjustments to enhance routine recordings.
15.08	Note behavior of patient of EEG: position, consciousness level, movement, clinical correlation.
15.09	Draw and describe frequency response curves and the EEG convention of polarity.
Course Number: ETN0006 Occupational Completion Point: B Electroneurodiagnostic Technologist 2 – 250 Hours – SOC Code 29-2099	
16.0	Perform personal, patient, and equipment electrical safety procedures.--The student will be able to:
16.01	Direct the activities of the patient, insuring safety and comfort while maintaining a controlled environment.
16.02	Protect equipment from harm due to cardiac defibrillation procedures, etc.
16.03	Protect self as directed in many situations avoiding contact with live electrical wires or outlets, wear protective gear.
16.04	Implement appropriate Joint Commission patient safety goals.
17.0	Select and apply patient specific EEG techniques. – The student will be able to:
17.01	Identify and describe invasive and non-invasive neurological diagnostic procedures.
17.02	Describe the criteria and procedure for insertion of nasopharyngeals and assist with sphenoidals.
17.03	Perform photic stimulation and describe/recognize photic evoked response, photomyoclonus and photo convulsive response.
17.04	Monitor hyperventilation and post hyperventilation and minuses for post hyperventilation. Describe hyperventilation findings and contraindications.
17.05	Determine polarity of cerebral potentials and eye movements.
17.06	Select or design montages to determine electrical field distribution of generalized and/or localized EEG abnormalities.
17.07	Recognize the diagnostic limitations of special related procedures and the criteria for their selection.
17.08	Calculate dosage and administer oral medication under minimal supervision.
17.09	Perform noxious stimulation of the patient with decreased consciousness when indicated with assistance as available.
17.10	Perform a neonatal recording and a nasopharyngeal recording.

	17.11 Describe the three modalities of EP recording.
	17.12 Describe polysomnographic recordings.
18.0	Recognize and categorize the EEG activity displayed. – The student will be able to:
	18.01 Identify normal activity in adults and variants of age correlates.
	18.02 Describe/recognize five stages of sleep: I, II, III, IV, and REM.
	18.03 Identify sedatives, tranquilizers, anticonvulsants, and medications for activation procedures that correlate with EEG changes.
	18.04 Recognize abnormal electrocerebral potential and interpret significance during recording procedure.
	18.05 Recognize abnormal electrocerebral potential: focal, paroxysmal, lateralized, and generalized.
	18.06 Recognize and categorize normal and abnormal EEG patterns and artifacts and correlate these phenomena with the patient's neurological examination and diagnosis and environment, respectively.
	18.07 Review, describe, and critique tracings with clinical supervisor, EEG instructor and electroencephalographer.
	18.08 Prepare a descriptive analysis of the EEG tracing.
	18.09 Identify space occupying lesions and gross neuropathology and discuss EEG pattern correlation.
19.0	Recognize, identify and/or correct artifacts. – The student will be able to:
	19.01 Recognize, monitor and/or eliminate physiological artifacts such as EKG, EMG, EOG, pulse and sweat.
	19.02 Recognize and eliminate instrumental artifacts such as pops and 60Hz, and equipment malfunction.
	19.03 Recognize, eliminate and/or monitor external environmental artifacts such as electrostatic interference.
20.0	Manage medical emergencies. – The student will be able to:
	20.01 Perform CPR/BCLS - C
	20.02 Perform basic First Aid Procedures.
	20.03 Describe restraining techniques on a patient who presents a danger to self or others as directed.
	20.04 Report immediately any changes in patient's level of consciousness, respiration, circulation, or color.

Course Number: ETN0007 Occupational Completion Point: B Electroneurodiagnostic Technologist 3 – 235 Hours – SOC Code 29-2099	
21.0	Recognize and correct instrument faults.--The student will be able to:
21.01	Report any malfunctioning equipment
21.02	Perform routine care/maintenance on equipment.
21.03	Troubleshoot, identify and correct malfunctions as described in the equipment manual.
22.0	Debrief patients.--The student will be able to:
22.01	Make certain that the patient has been informed about the activity/procedure performed.
22.02	Protect/return all personal items belonging to patient that were removed in the lab (e.g., glasses, dentures, earrings, wig, toupee, barrettes) and make certain that the patient has been informed.
22.03	Insure patient safety by using bed rails, wheel locks and safety belts.
23.0	Demonstrate knowledge of electrocortical and depth recording procedures.--The student will be able to:
23.01	Design montages to determine electrical field distribution of generalized and/or localized EEG abnormalities.
23.02	State the criteria for electrocorticography and describe the EEG technologist's role during surgery.
23.03	Describe the mechanism of neuronal function, synaptic transmission, volume conduction, cortico-thalmic projection system and neuronal basis of electrocerebral potential.
24.0	Demonstrate knowledge for performance of electrocerebral silence recording.--The student will be able to:
24.01	List the criteria for minimal technical standards of an electrocerebral silence (ECS) recording.
24.02	Perform an ECS recording.
24.03	Describe the three types of clinical evoked potentials and diagnostic function.
25.0	Prepare descriptive reports of recordings for use by the electroencephalographer.--The student will be able to:
25.01	Prepare technical report of each recording.
25.02	Record all information accurately.
25.03	Discuss patient information only with other appropriate medical personnel.

Course Number: ETN0008 Occupational Completion Point: B Electroneurodiagnostic Technologist 4 – 250 Hours – SOC Code 29-2099	
26.0	Identify skills needed to manage an EEG laboratory.--The student will be able to:
26.01	Recognize and locate billing forms and computer.
26.02	Identify and refer to procedure manual.
26.03	Recognize reports for patient charts.
26.04	Clean, maintain, and stock the instrument, linen supply, pedigo cart, and cabinets of the EEG laboratory every day.
26.05	Sanitize all parts of equipment utilized: electrodes, stethoscope ear pieces, etc.
26.06	Identify infection control policies.
26.07	Identify equipment/repairs as needed.
27.0	Describe how to keep laboratory records.--The student will be able to:
27.01	File records.
27.02	File maintenance reports and records of equipment inspections.
27.03	Identify employee evaluation forms and standards.
27.04	Identify forms, recognize need for, and implement incident reports.
28.0	Schedule appointments.--The student will be able to:
28.01	Schedule patient appointments according to agency policies and patient requirements.
28.02	Recognize urgency of requests for services and respond appropriately.
28.03	Respond to STATS.
29.0	List appropriate supplies needed.--The student will be able to:
29.01	Identify inventory needs of a laboratory.
29.02	Prepare mock requisition sheets.
30.0	Demonstrate knowledge of (EP) evoke potential equipment operation.--The student will be able to:
30.01	Describe the three modalities of EP testing.

	30.02 Apply the proper electrodes for all three modalities of EP testing.
	30.03 Recognize and describe displayed EP waveforms for all three modalities.

Course Number: ETN0009 Occupational Completion Point: B Electroneurodiagnostic Technologist 5 – 250 Hours – SOC Code 29-2099	
31.0	Demonstrate knowledge of (NCV) nerve conduction velocity techniques.--The student will be able to:
	31.01 Describe a typical NCV test.
	31.02 Applying proper electrodes for a median, ulner and post-tibial NCV test.
	31.03 Describe and recognize the waveforms obtained on a NCV test.
32.0	Demonstrate knowledge of (PSG) polysomnographic techniques.--The student will be able to:
	32.01 Describe the reasons for a PSG test.
	32.02 Apply proper electrodes for a PSG test.
	32.03 Recognize and describe the different types of PSG testing.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The program should be approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Program graduates are eligible to take the registry examination of (ABRET), the American Board of Registration of Electroencephalographic Technologists, for designation as R. EEG T.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Hemodialysis Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170207
CIP Number	0351101100
Grade Level	30, 31
Standard Length	600 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to communication and interpersonal skills, legal and ethical responsibilities, renal health-illness concepts, hemodialysis skills, emergency procedures including CPR and first aid, safety and security procedures, medical terminology, anatomy and physiology, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G HEMO TEC 7 G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	90 hours	31-9099
B	MLT0368	Dialysis Technician 1		255 hours	29-2099
	MLT0369	Dialysis Technician 2		255 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate accepted professional, communication and interpersonal skills specific to the dialysis setting.
13.0 Identify normal and abnormal anatomic structure and function of body systems in relation to services performed by a Hemodialysis Technician.
14.0 Practice infection control following universal precautions.
15.0 Recognize and demonstrate knowledge of how to utilize equipment and supplies specific to dialysis.
16.0 Demonstrate skills and knowledge necessary to perform dialysis technician duties.
17.0 Practice accepted procedures of transporting specimens.
18.0 Practice quality assurance and safety.

Florida Department of Education
Student Performance Standards

Program Title: **Hemodialysis Technician**
PSAV Number: **H17207**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MLT0368 **Occupational Completion Point: B** **Dialysis Technician 1 – 255 Hours – SOC Code 29-2099**	
12.0	Demonstrate accepted professional, communication and interpersonal skills specific to the dialysis setting. – The student will be able to:
12.01	Demonstrate knowledge of correct medical terminology related to dialysis.
12.02	Demonstrate ability to work as a member of the hemodialysis team.
12.03	Demonstrate knowledge of various professional organizations related to hemodialysis.
12.04	Recognize the importance of continuing education and renewal of certification
12.05	Recognize and respond appropriately to request from or to other departments or health care team members.
12.06	Describe the role of other health team members who interact with the dialysis team.
13.0	Identify normal and abnormal anatomic structure and function of body systems in relation to services performed by a hemodialysis technician. – The student will be able to:
13.01	Demonstrate knowledge of basic structure of the kidney.
13.02	Demonstrate knowledge of basic physiology of the kidney including but not limited to filtration, diffusion, osmosis, and electrolyte interchange.

	13.03 Recognize function of endocrine system as related to the kidney.
	13.04 Describe interaction of other body systems related to dialysis.
	13.05 Discuss diseases, including diagnosis, treatment, and signs and symptoms, which may lead to kidney failure and need for dialysis.
14.0	Practice infection control following standard precautions. – The student will be able to:
	14.01 Demonstrate knowledge of how (when) to utilize personal protection equipment (PPE).
	14.02 Demonstrate ability to recognize biohazardous waste storage and disposal, including, but not limited to isolation room waste.
	14.03 Follow standard precautions, clean techniques and OSHA regulations appropriately
	14.04 Label biohazardous waste correctly including date and location.
15.0	Recognize and demonstrate knowledge of how to utilize equipment and supplies specific to dialysis. – The student will be able to:
	15.01 Demonstrate use of water quality instrumentation including, but not limited to pH meter, conductivity meter and chloramine meter.
	15.02 Recognize supplies needed to conduct the hemodialysis treatment.
	15.03 Demonstrate ability to conduct daily inventory of hemodialysis supplies including, but not limited to dialysis, blood lines, and sodium chloride.
	15.04 Recognize necessity of keeping areas stocked for each staff.
Course Number: MLT0369 Occupational Completion Point: B Dialysis Technician 2 – 255 Hours – SOC Code 29-2099	
16.0	Demonstrate skills and knowledge necessary to perform dialysis technician duties. – The student will be able to:
	16.01 Demonstrate accurate documentation, machine trouble-shooting, and follow-up of whole patient hemodialysis treatment.
	16.02 Recognize any visual changes in patient’s behavior, hemodialysis machines and water room.
	16.03 Demonstrate knowledge of how to document any variance while patient is being dialysed including, but not limited to vital signs, machine's pava meters and water room.
	16.04 Demonstrate ability to cannulate, assess and confirm blood flow direction in patient's access; including, but not limited to signs of infection and patency.
17.0	Practice accepted procedures of transporting specimens. – The student will be able to:
	17.01 Collect blood specimens utilizing correct drawing techniques, refrigeration, packing and transportation.
	17.02 Follow laboratory's policy and procedures (P and P) from collection of specimens to separation of blood form elements.

18.0	Practice quality assurance and safety. – The student will be able to:	
	18.01	Demonstrate how to follow-up physician's medical orders, including, but not limited to treatment length, blood flow rates, dialysis type and concentration.
	18.02	Assist with maintenance of appropriate aseptic techniques (clean and/or sterile) during cannulation.
	18.03	Recognize patient's target weight (TW) importance, and maximum ultra-filtration rate possible.
	18.04	Describe patient's probable prognosis when dry weight is not reached.
	18.05	Demonstrate patient safety practices as related to permanent monitor patient - machine.
	18.06	Identify appropriate procedures and protocols to manage and correct common complications, including but not limited to, intradialytic hypotension, air embolisms, exsanguination (mass blood loss) and hemolysis.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Hands on clinical experience should be provided as part of the program of study. Refer to specific certification exam eligibility requirements in relation to clinical experience.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

State or Industry certification examinations are now part of the Centers of Medicare and Medicaid Services' (CMS) requirements and are available through several state and independent professional certification agencies:

Nephrology Nursing Certification Commission (NNCC)

The Board of Nephrology Examiners Nursing and Technology (BONENT)

Outcomes 01-11 are referred to as the Health Career Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Electrocardiograph Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170208
CIP Number	0351090203
Grade Level	30, 31
Standard Length	465 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2031 Cardiovascular Technologists and Technicians
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as electrocardiograph aides, electrocardiograph technicians, EKG Technicians SOC 29-2031 cardiovascular technologists and technicians or to provide supplemental training for persons previously or currently employed in this occupation.

The content includes but is not limited to communication and interpersonal skills, overview of human anatomy and physiology with emphasis on cardiac and vascular systems, medical terminology and transcription, patient care techniques, medical instrumentation, cardiovascular drugs, interpretation of monitoring and testing results, medical ethics, cardiac wellness and rehabilitation, safe and efficient work practices, CPR, Basic Life Support (BLS) and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	LAB TECH @7 7G EKG 7 G REG NURSE 7 G RESP THER @7 7G PARAMEDIC @7 7G PRAC NURSE @7 %7%G *(Must be a Registered Nurse) LAB ASST @7 7G	90 hours	31-9099
B	MEA0540	EKG Aide		75 hours	31-9099
C	MEA0541	EKG Technician		300 hours	29-2031

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Describe the cardiovascular system.
13.0 Identify legal and ethical responsibilities of an EKG aide.
14.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
15.0 Perform patient care techniques in the health care facility.
16.0 Recognize normal and abnormal monitoring and testing results.
17.0 Describe cardiovascular drugs, their actions, use, and adverse effects.
18.0 Demonstrate knowledge of other cardiovascular diagnostic modalities.

Florida Department of Education
Student Performance Standards

Program Title: **Electrocardiograph Technology**
PSAV Number: **H170208**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MEA0540 **Occupational Completion Point: B** **EKG Aide – 75 Hours – SOC Code 31-9099**	
12.0	Describe the cardiovascular system.--The student will be able to:
	12.01 Locate the heart and surrounding structures.
	12.02 Diagram and label the parts of the heart and list the functions of each labeled part.
	12.03 Trace the flow of blood through the cardiopulmonary system.
	12.04 Identify and describe the electrical conduction system.
	12.05 Describe the function of the autonomic nervous system.
	12.06 Describe a patient demonstrating poor perfusion and understand the importance of rapid reporting.
13.0	Identify legal and ethical responsibilities of an EKG aide.--The student will be able to:
	13.01 Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
	13.02 Maintain a safe and efficient work environment.
	13.03 Maintain EKG equipment so it will be safe and accurate.

	13.04 Implement appropriate Joint Commission patient safety goals and other applicable accrediting/regulatory agency guidelines.
14.0	Demonstrate knowledge of, apply and use medical instrumentation modalities.--The student will be able to:
	14.01 Calibrate and standardize the cardiograph instrument.
	14.02 Identify three types of lead systems.
	14.03 State Einthoven's triangle.
	14.04 Demonstrate proper lead placement including lead placement for patients with special needs to include pediatric, posterior and right sided EKGs.
	14.05 Identify artifacts and mechanical problems.
	14.06 Perform a 12 lead EKG.
	14.07 Recognize normal sinus rhythm.
	14.08 Report any rhythm that is not normal sinus rhythm.
	14.09 Recognize and respond cardiac emergency as seen on the EKG and understand the importance of rapid reporting.
	14.10 Use documentation skills to identify electrocardiographs.
15.0	Perform patient care techniques in the health care facility.--The student will be able to:
	15.01 Describe the physical and mental preparation of the patient for EKG testing.
	15.02 Identify patient and verify the requisition order.
	15.03 Prepare patient for cardiovascular diagnostic testing.
	15.04 Take patient’s vitals in preparation for cardiovascular diagnostic testing and report abnormalities.
	15.05 State precautions required when performing cardiovascular diagnostic procedures.
	15.06 Convey the importance of maintaining a safe patient environment and evaluate potential hazards in each environment.

Course Number: MEA0541 **Occupational Completion Point: C** **EKG Technician – 300 Hours – SOC Code 29-2031**
16.0 Recognize normal and abnormal monitoring and testing results.--The student will be able to:

	16.01 Measure waves, segments, complexes, rates and intervals.
	16.02 Identify electrical axis.
	16.03 List purposes for pacemakers and indications for insertion.
	16.04 Recognize normal and deviations from normal sinus rhythms.
	16.05 Recognize all atrial rhythms.
	16.06 Recognize all atrioventricular rhythms.
	16.07 Recognize all ventricular rhythms.
	16.08 Recognize all types of heart blocks.
	16.09 Recognize normal and deviations from normal pacemaker rhythms.
	16.10 Recognize indications of myocardial ischemia and infarction.
	16.11 Recognize allatrial and ventricular hypertrophies.
	16.12 Recognize allextrasystole and other rare phenomena.
	16.13 Recognize normal and deviations from normal 12 lead EKG results.
	16.14 Describe potential patient responses to brady- or tachy-dysrhythmias as well as other EKG abnormalities.
	16.15 Recognize and respond promptly to cardiac emergency through rapid reporting while monitoring rhythms.
17.0	Describe cardiovascular drugs, their actions, use and adverse effects.--The student will be able to:
	17.01 Describe mechanisms by which common cardiovascular drugs work including actions and adverse effects..
	17.02 Differentiate between normal and abnormal EKG changes due to drugs.
18.0	Demonstrate knowledge of other cardiovascular diagnostic modalities.--The student will be able to:
	18.01 Demonstrate knowledge of the application of a Holter Monitor and provide patient education of its use.
	18.02 Demonstrate the procedures for preparing the patient for stress testing/scanning exercise treatment.
	18.03 Understand and demonstrate patient documentation for all types of monitoring.
	18.04 Describe other modalities of cardiovascular diagnosis and interpretation.

18.05 Maintain patient cardiac alarm policy at all times.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This cluster of programs focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Students must complete the core, or demonstrate the mastery of skills standards contained in the core, before advancing in the program.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

A voluntary national certification is available through an exam offered by the National Health Career Association, 194 Rt. 46 East, Fairfield, NJ 07004 (973/244-0023) To be eligible students must;

1. Have a High School Diploma or equivalency and have completed an NHA approved training program.

OR

2. Have a High School Diploma or equivalency and have worked in the field for a minimum of one year.

Outcomes 01-11 are referred to as the Health Career Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio. The Core should be taken first or concurrently with the first course in the program.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Surgical Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170211
CIP Number	0351090905
Grade Level	30, 31
Standard Length	1330 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2055 Surgical Technologists
Basic Skills Level	Mathematics: 10 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment as surgical technologists (SOC 29-2055). Selected portions of this program may be utilized to provide additional skills to enable nursing graduates to become employable in operating rooms as surgical technologists.

The content includes but is not limited to communication and interpersonal skills, legal and ethical responsibilities, anatomy, physiology, pathophysiology, microbiology, aseptic techniques, patient care procedures, surgical technology procedures, patient safety, use and care of equipment and supplies, CPR, Heartsaver, employability skills, and basic computer literacy.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	OPR RM TEC @7 7G REG NURSE 7 G OPR REG NURSE 7 G SURG TECH 7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	90 hours	31-9099
B	STS0015	Central Supply Technician		210 hours	31-9099
C	STS0010	Surgical Technologist 1		343 hours	29-2055
	STS0011	Surgical Technologist 2		343 hours	
	STS0012	Surgical Technologist 3		344 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate central supply skills.
13.0 Use communication and interpersonal skills as related to surgical technology.
14.0 Demonstrate an understanding of the basic sciences related to surgical technology.
15.0 Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.
16.0 Describe and practice safety measures in the surgical environment.
17.0 Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs.
18.0 Demonstrate knowledge of the skills necessary to function safely and effectively.
19.0 Demonstrate knowledge of and assist with surgical procedures.
20.0 Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology.

Florida Department of Education
Student Performance Standards

Program Title: **Surgical Technology**
PSAV Number: **H170211**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: STS0015
Occupational Completion Point: B
Central Supply Technician – 210 Hours – SOC Code 31-9099

12.0	Demonstrate central supply skills. –The student will be able to:
12.01	Apply the principles of medical/surgical asepsis including attire, environmental control and traffic patterns to control and manage dirty, clean and sterile areas of the operating room and central supply.
12.02	Apply infection control techniques following Center for Disease Control (CDC) guidelines.
12.03	Inspect and send out for repair instruments, equipment and supplies regarding condition and quantity.
12.04	Describe the methods of disinfection and sterilization.
12.05	Demonstrate the handling, inspection and notification process regarding package integrity.
12.06	Demonstrate correctly decontamination techniques for instruments, equipment, and the environment used for surgical procedures.
12.07	Describe clean and sterile transportation, restocking, and storage principles for instruments, supplies and equipment.
12.08	Identify instruments, supplies and equipment for any surgical procedure.
12.09	Describe various supply distribution and inventory control methods.
12.10	Demonstrate ability to prepare and label items for high level disinfection and sterilization correctly.

	12.11 Demonstrate the techniques of high level disinfection and sterilization for immediate use items.
	12.12 Demonstrate case cart preparation and management.

Course Number: STS0010 Occupational Completion Point: C Surgical Technologist 1 – 343 Hours – SOC Code 29-2055	
13.0	Use communication and interpersonal skills as related to surgical technology. – The student will be able to:
	13.01 Describe various forms of communication in the role of surgical technologist.
	13.02 Analyze and select the appropriate behavioral response unique to the patient's needs.
	13.03 Describe the concepts of conflict resolution, assertive behavior and the principles of teamwork in the surgical environment.
14.0	Demonstrate an understanding of the basic sciences related to surgical technology. – The student will be able to:
	14.01 Describe the concepts of microbiology and relate key principles to the surgical environment.
	14.02 Compare and contrast the structure and characteristics of microorganisms found in the surgical environment.
	14.03 Relate medical terminology, medical abbreviations, and anatomy and physiology to surgical specialties and specific procedures.
	14.04 Analyze patient defense mechanisms, the chain of infection and the infectious process as related to surgical practice.
	14.05 Demonstrate infection and disease transmission control techniques following the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) guidelines for surgery.
	14.06 Correlate wound classifications and wound healing principles with wound management guidelines.
	14.07 Discuss the principles of information technology, electricity and robotics as they relate to surgery.
15.0	Demonstrate knowledge of pharmacology and math calculation principles related to the surgical environment.-The student will be able to:
	15.01 Describe the roles of the anesthesia provider and circulating nurse.
	15.02 Analyze the administration of anesthesia including the methods, agents, and techniques.
	15.03 Describe the preoperative examination and preparation process for both surgery and anesthesia.
	15.04 Describe potential anesthesia and operative complications and interventions for each.
	15.05 Define the terminology and describe the basic concepts of pharmacology including pharmacokinetics and pharmacodynamics.
	15.06 Identify the classifications, actions, effects and precautions for common drugs used at the sterile field and within the surgical

	environment.
15.07	Demonstrate the application of the six rights of medication administration.
15.08	Analyze and assemble correctly all medication supplies, for each drug to be used on the sterile field.
15.09	Demonstrate the appropriate methods of transferring and accepting medications onto the sterile field.
15.10	Prepare, manage and label sterile solutions and medications accurately within the sterile field.
15.11	Correctly calculate common medication conversions and dosages.
15.12	Demonstrate preparation and passing of medication mixtures using ratio and proportions correctly. .
15.13	Maintains an accurate account of the amount of each medication and/or solution used at the field and notifies circulator as appropriate to the situation to ensure accurate documentation.
16.0	Describe and practice safety measures in the surgical environment. – The student will be able to:
16.01	Describe the role, job duties and responsibilities of the surgical technologist in the healthcare setting.
16.02	Inspect emergency equipment and supplies for condition and quantity.
16.03	Demonstrate appropriate safety measures to prevent operating room fires and electrical shock from equipment. .
16.04	Describe appropriate safety measures for laser and electrosurgical unit usage in surgery.
16.05	Implement appropriate regulatory and accreditation agency patient safety guidelines
16.06	Describe the role of the surgical technologist in a disaster situation.
16.07	Describe the role of the surgical technologist in an emergency patient situation.
16.08	Prepare the operative site.
16.09	Perform steps for Foley catheter insertion and connecting to drainage correctly.

Course Number: STS0011 Occupational Completion Point: C Surgical Technologist 2 – 343 Hours – SOC Code 29-2055	
17.0	Assist the RN circulator with patient care procedures related to the surgical environment and describe methods for meeting patient's needs. – The student will be able to:
17.01	Perform patient transfer/transportation techniques used in the operating room.
17.02	Assist with positioning and apply safety devises to the patient for surgery
17.03	Ground patient and connect electrosurgical cautery unit.
17.04	Describe the roles of anesthetist and circulating nurse during induction.
17.05	Prepare the operative site.
17.06	Perform steps for foley catheter insertion and connecting to drainage
17.07	Apply sterile dressing and bandage.
18.0	Demonstrate knowledge of the skills necessary to function safely and effectively. – The student will be able to:
18.01	Select and verify instruments, equipment and supplies, including any implants needed for surgical procedures using surgeon preference/procedure cards including those identified as “have available/hold items”. .
18.02	Measure and pour sterile solutions.
18.03	Perform surgical scrub.
18.04	Put on sterile gown and gloves.
18.05	Drape tables and solution stands.
18.06	Set up sterile mayo stand and instrument table.
18.07	Prepare sutures, ligatures, ties.
18.08	Prepare, pass, and monitor amount given for medications used on the sterile field.
18.09	Assist surgeon in gowning and gloving.
18.10	Assist in draping patient, pass instruments, monitor field.
18.11	Identify/correct and/or report breaks in aseptic technique.
18.12	Monitor body fluids, e.g. blood loss, ascites.

18.13	Perform complete counts with R.N.
18.14	Identify principles and demonstrate techniques of disinfection and sterilization.
18.15	Assist in removing/applying cast.
18.16	Assist in maintaining retraction, cutting suture and holding instruments as directed by the surgeon in the second assistant role.
18.17	Prepare specimen for laboratory analysis.
18.18	Decontaminate instruments equipment and environment.
18.19	Replenish supplies and equipment.
18.20	Describe how to update procedure/preference cards.
18.21	Apply electrical knowledge to safe patient care practices in surgery.

Course Number: STS0012 Occupational Completion Point: C Surgical Technologist 3 – 344 Hours – SOC Code 29-2055	
19.0	Demonstrate knowledge of and assist with surgical procedures. – The student will be able to:
19.01	Identify preoperative diagnosis, common complications, and operative pathology relating to specific surgical procedures.
19.02	List and describe types of incisions and wound closures.
19.03	Describe the usual sequence of a common surgical procedure (i.e. incision into the anatomy, dissection of the anatomy and closing of the anatomy.) .
19.04	Demonstrates the ability to select the appropriate instrument, equipment, or supply for each step of the procedure.
19.05	Demonstrates proper cost effective methods including the ability to identify “have available/hold items”.
20.0	Demonstrate an understanding of legal and ethical responsibilities specific to surgical technology. – The student will be able to:
20.01	State methods, standards and aids that assist a surgical technologist with interpreting and following legal responsibilities.
20.02	Describe the role of the surgical technologist in the healthcare setting. Provide health care within the ethical/legal framework of the surgical technologist’s role.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical learning experiences in an operating room and related areas are an integral part of this program. It is strongly recommended that a teacher to student ratio of 1:6 be held in the laboratory setting.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program should meet the requirements of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or Accrediting Bureau of Health Education Schools (ABHES).

After successful completion of a Commission on Accreditation of Allied Health Education Programs (CAAHEP) or Accrediting Bureau of Health Education Schools (ABHES) accredited program, students are eligible to take the National Board of Surgical Technologist and Surgical Assisting (NBSTSA), Certified Surgical Technologist exam.

Please contact NBSTSA for more information on this exam:

National Board of Surgical Technologist and Surgical Assisting (NBSTSA)
6 West Dry Creek Circle, Suite 100 Littleton, Colorado 80120
Toll-free: (800) 707-0057

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Central Sterile Processing Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170222
CIP Number	0351089902
Grade Level	30,31
Standard Length	650 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 31-9093 Medical Equipment Preparers
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as supervisors, central supply, central supply workers, ambulatory surgery processors, surgical instrument processors, gastrointestinal (GI) flexible endoscope reprocessors, case cart technicians, inventory technicians, processing technicians, stock clerks: stock room or warehouse, sterilizers, central service technicians SOC Code 31-9093 (medical equipment preparers).

The content includes but is not limited to central services departmental organization and function; basic anatomy, physiology, microbiology and chemistry related to central service activities; quality assurance; infection control and isolation techniques, principles of safety; principles, methods and controls of sterilization processes; cleaning, processing, packaging, distributing, storing, and inventory control of sterile goods, instruments,

trays, and equipment; medical terminology; surgical instrumentation; basic computer skills, interpersonal and job seeking skills, fundamentals of communication, case cart management, laparoscopic specialty, orthopedic specialty, flexible scope processing , shift supervisory skills and procurement of supplies and equipment.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	CENT SERV TECH 7 G OPR REG NURSE 7 G SURG TECH 7 G	90 hours	31-9099
B	STS0019	Central Sterile Service Materials Management		150 hours	31-9093
C	STS0013	Central Sterile Processing Technician		410 hours	31-9093

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Describe supply distribution systems and the principles of inventory control.
13.0 Demonstrate the ability to recall and dispose of or reprocess sterile supplies.
14.0 Identify fundamentals of procurement skills.
15.0 Demonstrate language arts knowledge and skills.
16.0 Solve problems using critical thinking skills, creativity and innovation.
17.0 Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.
18.0 Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
19.0 Demonstrate the roles and responsibilities of the central supply worker.
20.0 Recognize basic principles of microbiology.
21.0 Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel.
22.0 Describe how central service is involved in controlling infections in hospitals.
23.0 Explain the purpose of occupational safety and health Act.
24.0 Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items.
25.0 Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers.
26.0 Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty.

Florida Department of Education
Student Performance Standards

Program Title: **Central Sterile Processing Technology**
PSAV Number: **H170220**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: STS0019 **Occupational Completion Point: B** **Central Sterile Service Materials Management – 150 Hours – SOC Code 31-9093**	
12.0	Describe supply distribution systems and the principles of inventory control -- The student will be able to:
12.01	Define the benefits of inventory control.
12.02	Describe the methods of inventory control.
12.03	Compare the advantages and disadvantages of each distribution methods.
12.04	Process a requisition marked "stat" - locate article, price, etc.
12.05	Demonstrate the process of stock rotation.
12.06	Identify the uses of sterility maintenance covers.
12.07	Describe the processes for loaner instrumentation and equipment.
12.08	Describe the process of product evaluation.
12.09	Describe the procedures for tracking the usage of medical/surgical supplies, patient care equipment and specialty carts.
12.10	Describe the procedures for documenting supply and equipment charges.

	12.11 Demonstrate the methods of case cart preparation and the utilization of preference cards.
13.0	Demonstrate the ability to recall and dispose of or reprocess sterile supplies -- The student will be able to:
	13.01 Explain the factors that affect how long a package can be considered safe for use.
	13.02 Explain the differences between event related, date related, and manufacturer recommendations.
	13.03 State the methods of determining expiration dates.
	13.04 List the steps in reprocessing outdated hospital packaged items.
	13.05 List conditions that would make a product unsafe for use
	13.06 Describe the use of tamper evident seals.
	13.07 Describe the methods of reprocessing.
	13.08 Identify standards and facility policies on reprocessing of single use items.
	13.09 Describe the process of recall for medical/surgical supplies.
14.0	Identify fundamentals of procurement skills -- The student will be able to:
	14.01 Describe procurement system.
	14.02 Communicate with other hospitals, facilities, or company representatives for procurement of supplies and equipment.
	14.03 Describe several different methods of procurement of supplies.
	14.04 Describe basics of receiving items, including documentation of receiving and release to other facilities.

Course Number: STS0013 **Occupational Completion Point: C** **Central Sterile Processing Technician– 410 Hours – SOC Code 31-9093**	
15.0	Demonstrate language arts knowledge and skills – The students will be able to:
	15.01 Locate, comprehend and evaluate key elements of oral and written information.
	15.02 Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.
	15.03 Present information formally and informally for specific purposes and audiences.
16.0	Solve problems using critical thinking skills, creativity and innovation. – The students will be able to:

	16.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.
	16.02 Employ critical thinking and interpersonal skills to resolve conflicts.
	16.03 Identify and document workplace performance goals and monitor progress toward those goals.
	16.04 Conduct technical research to gather information necessary for decision-making.
17.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment – The students will be able to:
	17.01 Describe the nature and types of business organizations.
	17.02 Explain the effect of key organizational systems on performance and quality.
	17.03 List and describe quality control systems and/or practices common to the workplace.
	17.04 Explain the impact of the global economy on business organizations.
18.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives. – The students will be able to:
	18.01 Employ leadership skills to accomplish organizational goals and objectives.
	18.02 Establish and maintain effective working relationships with others, in order to accomplish objectives and tasks.
	18.03 Conduct and participate in meetings to accomplish work tasks.
	18.04 Employ mentoring skills to inspire and teach others.
	18.05 Analyze attributes and attitudes of an effective leader.
	18.06 Recognize factors and situations that may lead to conflict.
	18.07 Demonstrate effective techniques for managing team conflict.
19.0	Demonstrate the roles and responsibilities of the central supply worker. -- The student will be able to:
	19.01 Describes professional standards related to personal hygiene and dress codes.
	19.02 Identifies relevant federal, state, and local guidelines, standards and regulations.
	19.03 Describes the function and workflow of the sterile processing department.
	19.04 Apply ergonomic considerations and appropriate body mechanics for lifting, turning, pulling, pushing, and reaching.
	19.05 Apply policies and procedures related to sterile processing functions (safety, infection control, disaster control, disaster, MSDS, incident reports, etc.).

	19.06 Describes importance of following device, equipment, instrument or supply manufacturer's instructions for processing, operation, and troubleshooting.
20.0	Recognize basic principles of microbiology. -- The student will be able to:
	20.01 Describe terms related to microbiology and the control of microorganisms in central sterile processing departments.
	20.02 Identify the main categories of microorganisms.
	20.03 Describe the life functions of microorganisms.
	20.04 Describe conditions affecting the growth of bacteria.
	20.05 Describe special methods used to destroy harmful microorganisms on fomites in the environment.
	20.06 List the helpful microorganisms.
	20.07 Describe how the body controls the growth of pathogenic microorganisms.
	20.08 Identify pathogenic microorganisms commonly found in central service departments.
21.0	Interpret and apply medical terminology and anatomical terms as they relate to equipment and supplies issued by central service personnel -- The student will be able to:
	21.01 Identify word elements for medical terms.
	21.02 Relate anatomical concepts to orthopedic devices and other supplies and equipment issued by the CS Department.
22.0	Describe how central service is involved in controlling infections in hospitals -- The student will be able to:
	22.01 Describe nosocomial infections.
	22.02 Describe the types of isolation.
	22.03 Describe the organization and functions of CS.
	22.04 Describe the CS responsibilities for infection control and traffic patterns when in the operating room and other departments.
	22.05 Identify proper storage and transportation standards for supplies in the facility (receivables, sterile, clean, or contaminated).
	22.06 Describe the organizational patterns of health care facilities.
23.0	Explain the purpose of occupational safety and health Act -- The student will be able to:
	23.01 Describe how employees are protected under OSHA.
	23.02 Describe potential workplace hazards in CS. (wet floors, chemicals, fumes, gases, steam, electrical outlets, body fluids, microorganisms, sharps, and medical wastes.)

	23.03	Describe the role preventive maintenance plays in patient and personnel safety in the hospital.
	23.04	Explain the purpose of Florida's "Right to Know" law and its provisions.
	23.05	Describe the protocol for personal injury including the completion of incident/occupancy reports and follow up.
	23.06	Implement appropriate regulatory and accreditation agency patient safety guidelines.
24.0	Receive, decontaminate, clean, prepare, disinfect and sterilize reusable items -- The student will be able to:	
	24.01	Describe the importance of thorough cleaning to the overall objectives of making items safe for patient use.
	24.02	Explain the importance of following manufacturers' instructions in cleaning each item for reprocessing.
	24.03	Describe the levels of disinfection, the cleaning process and methods of disinfection for the environment, instruments, syringes, needles, rubber goods and equipment.
	24.04	Describe the mechanisms of action for each disinfection method including ultrasonic machines and washer/sterilizers.
	24.05	Describe the strategies for managing difficult to control microorganisms that require isolation techniques and specialized decontamination methods including Creutzfeldt-Jakob Disease (CJD).
	24.06	Describe the factors affecting decontamination (water temperature, loading procedures, water impurities, opening and disassembling)
	24.07	Distinguish correct reprocessing policies related to single use, limited use, and reusable items.
	24.08	Describe decontamination methods for drill systems and batteries
	24.09	Describe the function of case cart washers, and alternative methods of cleaning.
	24.10	Describe the need for testing and monitoring all decontamination machines for proper function and cleaning agents.
	24.11	Explain the importance of using correct chemicals for cleaning in regards to water quality, PH, filters, softeners, enzymes, lubricants.
	24.12	Describe the types, characteristics, and uses of chemicals, solutions, and gases utilized for decontamination. (Detergents, disinfectants, enzymatics, germicides).
	24.13	Demonstrate the decontamination process for instruments, syringes, needles, rubber goods and equipment.
	24.14	Demonstrate flexible endoscopic leak testing, decontamination, and reprocessing.
	24.15	Demonstrates decontamination and proper handling of rigid scopes.
	24.16	Describes the methods of high level disinfection including manual and automated endoscopic reprocessor (AER).
	24.17	Describe the types of sterilizers and methods of sterilization.
	24.18	Describe the primary objectives in selecting the correct packaging materials for both the individual item and the sterilization method

		to be used.
	24.19	Describe the principles of packaging.
	24.20	Describe the characteristics of packaging materials in relationship to sterilization methods.
	24.21	Describe the principles of linen pack and tray construction/assembly.
	24.22	Describe the recommended labeling methodologies.
	24.23	Identify basic surgical procedure trays, instruments, supplies, and accessories.
	24.24	Explain the principles utilized when loading different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.25	Recognize equipment malfunction and list corrective actions.
	24.26	Demonstrate the wrapping of procedures trays, instruments and other supplies.
	24.27	Demonstrate loading of different kinds of wrapped packs or packages into a sterilizer to be assured of sterilant penetration.
	24.28	Describe how sterile supplies should be handled.
	24.29	Demonstrate handling, transportation and storage of clean, sterile and nonsterile supplies and equipment.
25.0	Demonstrate the use of sterilization process monitors, including temperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers -- The student will be able to:	
	25.01	Describe the types of sterilization, sterilization cycles, and parameters for each.
	25.02	Describe the importance of the manufacturer’s recommendations for the safe operation of each type of sterilizer.
	25.03	Describe the methods of sterilization monitoring.
	25.04	Demonstrate the process of preparing and documenting the sterilizer load contents for each sterilizer correctly according to the manufacturer’s recommendations.
	25.05	Demonstrate the operation, testing, and monitoring of sterilizers.
	25.06	Demonstrate the ability to interpret and document monitoring devices, printouts, and charts accurately for each sterilization system utilized.
	25.07	Identify the standards for, and facility policy regarding, frequency of monitoring for all sterilizers.
26.0	Demonstrate the ability to identify and select appropriate instrumentation or equipment that meets the needs of the specialty. The student will be able to:	
	26.01	Describe instrument terminology and identify the anatomy of surgical instruments (jaws, shanks, box locks, rings, etc.)
	26.02	Describe the types and functions of instruments.

26.03	Describe the types of instrument construction.
26.04	Demonstrate appropriate techniques for inspection and testing of instruments.
26.05	Identify instrumentation and equipment by name and usage.
26.06	Correctly label instrumentation and equipment.
26.07	Demonstrate the methods of instrument identification, marking, and tracking of use.
26.08	Demonstrate the assembly of various instrument sets and specialty equipment.
26.09	Demonstrate the process regarding the manufacturer’s recommendations for instrument and equipment care including handling, operation, maintenance, and troubleshooting.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Inquiries about a voluntary certification for sterile processing and distribution may be made to:

International Association of Hospital Central Service Materiel Management (IAHCSMM)
213 West Institute Place, Suite 307, Chicago, IL 60610
Toll Free: 800-962-8274

OR

Certification Board for Sterile Processing and Distribution, Inc (CBSPD)
2 Industrial Park Road-Suite 3
Alpha, NJ 08865

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations programs at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Phlebotomy**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170302
CIP Number	0351100901
Grade Level	30, 31
Standard Length	165 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9097 Phlebotomists 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as phlebotomists SOC Code 31-9097 Phlebotomists, All other.

The content includes but is not limited to communication, leadership, human relations, and employability skills; performance of safe and efficient work practices in obtaining adequate and correct blood specimens by capillary or venipuncture on adults, children and neonates; maintaining the integrity of the specimen in relation to the test to be performed; preparing blood smears; labeling specimens accurately and completely; collecting timed specimens; promoting the comfort and well-being of the patient while performing blood collecting duties; observing safety policies and procedures; medical terminology; emergency procedures including CPR (Heartsaver); delivering a variety of clinical specimens to the clinical laboratory; sorting and recording specimens received in the laboratory; centrifuging specimens and preparing aliquots of samples according to the designated protocol; distributing samples to appropriate laboratory sections; and preparing collection trays for specimen procurement.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	LAB TECH @7 7G MED ASST 7G PARAMEDIC @7 7G REG NURSE 7 G RESP THER @7 7G PRAC NURSE @7 %7%G *(Must be a Registered Nurse) TEC MED !7 G LAB ASST @7 7G	90 hours	31-9099
B	MEA0520	Phlebotomist		75 hours	31-9097

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate accepted professional, communication and interpersonal skills.
13.0 Discuss phlebotomy in relation to the health care setting.
14.0 Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
15.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
16.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
17.0 Practice infection control following standard precautions.
18.0 Practice accepted procedures of transporting, accessioning and processing specimens.
19.0 Practice quality assurance and safety.

Florida Department of Education
Student Performance Standards

Program Title: **Phlebotomy**
PSAV Number: **H170302**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MEA0520 **Occupational Completion Point: B** **Phlebotomist – 75 Hours – SOC Code 31-9097**	
12.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
12.01	Demonstrate the appropriate professional behavior of a phlebotomist.
12.02	Explain to the patient the procedure to be used in specimen collection.
12.03	Explain in detail the importance of identifying patients correctly when drawing blood.
12.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
12.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
12.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
13.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
13.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.
13.02	Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.

	13.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
14.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:
	14.01 Describe and define major body systems with emphasis on the circulatory system.
	14.02 List and describe the main superficial veins used in performing venipuncture.
	14.03 Locate the most appropriate sites(s) for capillary and venipuncture.
	14.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	14.05 Compare and contrast between serum and plasma as it relates to blood collection.
	14.06 Discuss hemostasis as it relates to blood collection.
15.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	15.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
	15.02 Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
	15.03 Identify and discuss proper use of supplies used in collecting micro-specimens.
	15.04 Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	15.05 Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	15.06 Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	15.07 Define and utilize correct medical terminology and metric measurement needed for specimen collection.
16.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
	16.01 Follow approved procedure for completing a laboratory requisition form.
	16.02 Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	16.03 Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).
	16.04 Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	16.05 List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.

16.06	Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
16.07	Describe the correct order of draw.
16.08	Describe the use of barcoding systems used for specimen collection.
16.09	Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
16.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
16.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
16.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
16.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
16.14	Demonstrate the proper procedure for collecting blood cultures.
16.15	Discuss the effects of hemolysis and methods of prevention.
16.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
17.0	Practice infection control following standard precautions. – The student will be able to:
17.01	Define the term "nosocomial/ hospital acquired infection."
17.02	Describe and practice procedures for infection prevention including hand washing skills.
17.03	Discuss and perform transmission based precautions.
17.04	Identify potential routes of infection and their complications.
18.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
18.01	Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
18.02	Demonstrate knowledge of accessioning procedures.
18.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
18.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
19.0	Practice quality assurance and safety. – The student will be able to:
19.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.

19.02	Demonstrate knowledge of and practice appropriate patient safety.
19.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
19.04	Follow documentation procedures for work related accidents.
19.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

A voluntary national certification is available through an exam offered by:
The National Health Career Association, 7500 West 160th Street Stilwell, Kansas 66085 PH: 800-499-9092 x8223Fax: 973-644-4797 To be eligible students must;

1. Have a High School Diploma or equivalency and have completed an NHA approved training program.

OR

2. Have a High School Diploma or equivalency and have worked in the field for a minimum of one year.

Although there is no state licensure required for phlebotomists, graduates with required amounts of work experience may obtain certification from national credentialing agencies such as the American Society of Clinical Pathologists (ASCP) and the American Society of Phlebotomy Technicians (ASPT), and American Medical Technologists (AMT).

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Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Laboratory Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170306
CIP Number	0351080201
Grade Level	30, 31
Standard Length	465 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9097 Phlebotomists 29-2012 Medical and Clinical Laboratory Technicians 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as medical laboratory aides 29-2012 Medical and Clinical Laboratory Technicians

The content includes but is not limited to communication, interpersonal and professional skills, appropriate scientific principles of microbiology, chemistry, physics, anatomy and physiology integrated into skill development and clinical learning.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3) (b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	LAB TECH @7 7G LAB ASST @7 7G TEC MED !7 G	90 hours	31-9099
B	MEA0520	Phlebotomist	LAB TECH @7 7G MED ASST 7G PARAMEDIC @7 7G REG NURSE 7 G RESP THER @7 7G PRAC NURSE @7 %7%G *(Must be a Registered Nurse) TEC MED !7 G LAB ASST @7 7G	75 hours	31-9097
C	MEA0560	Medical Lab Assistant	LAB TECH @7 7G LAB ASST @7 7G TEC MED !7 G	300 hours	29-2012

Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate accepted professional, communication and interpersonal skills.
13.0 Discuss phlebotomy in relation to the health care setting.
14.0 Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
15.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
16.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
17.0 Practice infection control following standard precautions.
18.0 Practice accepted procedures of transporting, accessioning and processing specimens.
19.0 Practice quality assurance and safety.
20.0 Identify the federal and state laws which serve to regulate the provision of laboratory services, including CLIA, Florida Statutes, and Florida Administrative Code.
21.0 Demonstrate a basic understanding of ICD and CPT coding Systems.
22.0 Demonstrate basic knowledge of microbiology
23.0 Demonstrate basic knowledge of urinalysis.
24.0 Demonstrate basic knowledge of clinical chemistry.
25.0 Demonstrate basic knowledge of hematology.
26.0 Demonstrate basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived).
27.0 Demonstrate basic knowledge of and perform Point of Care (POC) Testing using CLIA approved Waived instrumentation.
28.0 Successfully complete learning experiences in the clinical setting.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Laboratory Assisting**
PSAV Number: **H170306**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MEA0520
Occupational Completion Point: B
Phlebotomist – 75 Hours – SOC Code 31-9097

12.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
12.01	Demonstrate the appropriate professional behavior of a phlebotomist.
12.02	Explain to the patient the procedure to be used in specimen collection.
12.03	Explain in detail the importance of identifying patients correctly when drawing blood.
12.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
12.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
12.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
13.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
13.01	List, classify and discuss various departments and services within the health care setting in which the phlebotomist must interact with to obtain laboratory specimens from patients.
13.02	Identify the major departments/sections with the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.

	13.03 Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
14.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:
	14.01 Describe and define major body systems with emphasis on the circulatory system.
	14.02 List and describe the main superficial veins used in performing venipuncture.
	14.03 Locate the most appropriate sites(s) for capillary and venipuncture.
	14.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	14.05 Compare and contrast between serum and plasma as it relates to blood collection.
	14.06 Discuss hemostasis as it relates to blood collection.
15.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	15.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
	15.02 Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
	15.03 Identify and discuss proper use of supplies used in collecting micro-specimens.
	15.04 Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	15.05 Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	15.06 Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	15.07 Define and utilize correct medical terminology and metric measurement needed for specimen collection.
16.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
	16.01 Follow approved procedure for completing a laboratory requisition form.
	16.02 Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	16.03 Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL).
	16.04 Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	16.05 List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.

	16.06	Perform venipuncture by evacuated tube, butterfly and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
	16.07	Describe the correct order of draw.
	16.08	Describe the use of barcoding systems used for specimen collection.
	16.09	Convey an understanding of capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
	16.10	Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.
	16.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
	16.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
	16.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	16.14	Demonstrate the proper procedure for collecting blood cultures.
	16.15	Discuss the effects of hemolysis and methods of prevention.
	16.16	Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
17.0	Practice infection control following standard precautions. – The student will be able to:	
	17.01	Define the term "nosocomial/ hospital acquired infection."
	17.02	Describe and practice procedures for infection prevention including hand washing skills.
	17.03	Discuss and perform transmission based precautions.
	17.04	Identify potential routes of infection and their complications.
18.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:	
	18.01	Follow the approved procedure for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
	18.02	Demonstrate knowledge of accessioning procedures.
	18.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
	18.04	Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
19.0	Practice quality assurance and safety. – The student will be able to:	
	19.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.

	19.02	Demonstrate knowledge of and practice appropriate patient safety.
	19.03	Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
	19.04	Follow documentation procedures for work related accidents.
	19.05	Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.

Course Number: MEA0560 **Occupational Completion Point: C** **Medical Lab Assistant – 300 Hours – SOC Code 29-2012**		
20.0		Identify the federal and state laws which serve to regulate the provision of laboratory services, including CLIA, Florida Statutes, and Florida Administrative Code–The student will be able to:
	20.01	Explain the CLIA test complexity model and describe the characteristics required for FDA classification of a test as waived.
	20.02	Explain the categories of testing personnel established by both CLIA and Florida regulations and describe the basic educational and/or experiential qualifications for each category.
	20.03	Explain the differences in requirements for a physician practice laboratory, a hospital laboratory and an independent clinical laboratory.
	20.04	Describe Alternate Site Testing requirements as they apply to hospitals in Florida and compare and contrast these with the requirements for CLIA waived testing and Provider Performed Microscopy. Apply the concepts of Point-of-Care or Near Patient testing to these requirements.
	20.05	Demonstrate an understanding of the concepts of “scope of practice”, “professional judgment”, and “duty/obligation to report”.
21.0		Demonstrate a basic understanding of ICD and CPT coding Systems–The student will be able to:
	21.01	Explain the characteristics of the International Classification of Disease System (ICD), and its important function in substantiating the clinical record.
	21.02	Explain the characteristics of Healthcare Common Procedure Coding System (HCPCS), including the two primary levels of codes, and its function in reporting medical procedures including laboratory testing.
	21.03	Explain the differences between analyte, method, and unlisted procedure CPT codes and the hierarchy for selecting CPT codes for reporting laboratory tests.
	21.04	Describe the concept of medical necessity as set forth in National or Local coverage Decisions (NCD and LCD) for lab testing under the Medicare Program.
	21.05	Review the concept of congressionally –mandated screening tests under the Medicare Program.
22.0		Demonstrate basic knowledge of microbiology.- The student will be able to:
	22.01	Perform techniques of microbiology related to disinfection techniques.
	22.02	Discuss techniques of microbiology related to isolation techniques.

	22.03 Perform techniques of microbiology related to sterilization techniques.
	22.04 Perform techniques of microbiology related to slide preparation.
	22.05 Perform principles and use of the microscope.
	22.06 Understand the staining and microscopic examination of gram stains.
	22.07 Discuss techniques of microbiology related to inoculation and transfer of cultures.
	22.08 Perform basic techniques of microbiology
	22.09 Discuss classification, composition and preparation of culture media.
23.0	Demonstrate basic knowledge of urinalysis. –The student will be able to:
	23.01 Understand urinalysis techniques related to normal and abnormal components of the urine.
	23.02 Perform urinalysis techniques related to collection and preservation of specimens.
	23.03 Perform urinalysis techniques related to physical properties of urine
	23.04 Perform urinalysis techniques related to dipstick urine pH and describe clinical significance.
	23.05 Discuss urinalysis techniques related to urine specific gravity techniques.
	23.06 Perform dipstick or tablet (non-automated) urinalysis techniques related to performance of chemical tests.
	23.07 Discuss urinalysis techniques related to microscopic identification of significant elements.
	23.08 Perform urinalysis techniques related to principles and use of centrifuge.
24.0	Demonstrate basic knowledge of clinical chemistry. –The student will be able to:
	24.01 Perform techniques of clinical chemistry related to metric measurement.
	24.02 Perform techniques of clinical chemistry related to labware and clinical equipment.
	24.03 Perform techniques of clinical chemistry related to reagent preparation, laboratory equipment and laboratory techniques.
	24.04 Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.
	24.05 Discuss the importance of Quality Assurance as it relates to patient results.
	24.06 Discuss techniques of clinical chemistry related to visual colorimetry, calibration and use of the spectrophotometer.

	24.07	Demonstrate an understanding of the relationship between common clinical chemical tests and specific body systems and disorders.
25.0	Demonstrate basic knowledge of hematology.-The student will be able to:	
	25.01	Discuss techniques of hematology related to counting formed elements of blood.
	25.02	Perform techniques of hematology related to preparation and staining.
	25.03	Discuss techniques of cell differential microscopic examination of blood films.
	25.04	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	25.05	Perform techniques of hematology related to spun hematocrit tests.
	25.06	Discuss techniques of hematology related to the use of platelet function analyzing instruments in addition to performing bleeding times.
	25.07	Perform techniques of hematology related to hemoglobin tests.
	25.08	Discuss techniques of hematology related to calculation of red blood cell indices.
	25.09	Discuss basic techniques of hematology related to normal and abnormal physiology.
26.0	Demonstrate the basic knowledge of and perform clinical laboratory Point of Care (POC) testing (Waived)- The student will be able to	
	26.01	Demonstrate the ability to interpret instructions of point of care testing including , but not limited to the following:
	26.01.01	Test principle
	26.01.02	Storage & Stability
	26.01.03	Internal vs. External Quality Control
	26.01.04	Specimen collection & preparation
	26.01.05	Directions for use
	26.01.06	Interpretation of results
	26.01.07	Interfering substances
	26.02	Demonstrate and discuss knowledge of lot numbers use and importance in regard to both kits and reagents.
	26.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.
	26.04	Explain the CLIA 88 classification of laboratory testing into waived, moderate, and highly complex including the personnel qualified to perform each.

27.0	Demonstrate basic knowledge of and perform Point of Care(POC) Testing using CLIA approved Waived instrumentation- The student will be able to
	27.01 Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.
	27.02 Demonstrate competence in instrument maintenance.
	27.03 Demonstrate knowledge of quality control and calibrations involved within the POC instruments.
	27.04 Identify normal limits and associate abnormal results with disease or disorders.
	27.05 Discuss the significance of reporting critical values as it applies to Point of Care testing.
28.0	Successfully complete learning experiences in the clinical setting–The student will be able to:
	28.01 Observe and participate as appropriate in skills outlined in outcomes for medical lab assisting.
	28.02 Complete clinical rotations.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Education Simulator Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170400
CIP Number	0311010200
Grade Level	30,31
Standard Length	600 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as a Medical Education Simulator Technician (Health technologists and technicians, all others SOC #29-2099). This program offers a broad foundation of knowledge and skills to prepare students for employment in the clinical inpatient, clinical outpatient and research settings.

The content includes but is not limited to the history of the simulator, patient care, infection control, legal and ethical responsibilities, health-illness concepts, medical terminology, anatomy and physiology, safety and security procedures, administrative and personal competence, and the employability skills that are basic to all health care occupations.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	ANY HEALTH OCCUP G *(See DOE approved list)	90 hours	31-9099
	HSC0061	Intro to Clinical Medical Education Simulator Technician		60 hours	
	HSC0062	Clinical Medical Education Simulator Technician 1	REG NURSE SIM TEC 7 G PARAMEDIC SIM TEC 7 G	150 hours	
	HSC0063	Clinical Medical Education Simulator Technician 2		150 hours	
B	HSC0064	Clinical Medical Education Simulator Technician 3		150 hours	29-2099

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate knowledge of the history of simulation in medical education.
13.0 Demonstrate knowledge of medical anatomy and physiology
14.0 Perform Operation of the simulator
15.0 Conduct set up of simulator
16.0 Demonstrate an understanding of calibration and testing of the simulator
17.0 Perform routine maintenance on the simulator
18.0 Demonstrate trouble shooting skills on the simulator
19.0 Demonstrate knowledge of professional development
20.0 Conduct assembly and installation operation of the simulator
21.0 Perform repairs to the simulator

Florida Department of Education
Student Performance Standards

Program Title: **Medical Education Simulator Technician**
PSAV Number: **H170400**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HSC0061
Occupational Completion Point: B
Introduction to Clinical Medical Education Simulation Technician – 60 Hours – SOC Code 29-2099

12.0	Introduction to Medical simulation.-- The students will be able to:
12.01	Demonstrate the knowledge of the history of medical simulation.
12.02	Demonstrate the awareness of emerging technologies in the medical industry.
12.03	Describe the categories of health care agencies involved in the clinical simulation setting.
13.0	Demonstrate knowledge of medical anatomy and physiology.-- The students will be able to:
13.01	Describe the muscular system structure and function, under normal, injurious, and degraded conditions.
13.02	Describe the skeletal system structure and function, under normal, injurious, and degraded conditions.
13.03	Describe the neurologic system structure and function, under normal, injurious, and degraded conditions.
13.04	Demonstrate knowledge of the human body system in relationship to human simulators body systems.
13.05	Demonstrate knowledge of medical terminology as it relates to the clinical setting.

Course Number: HSC0062 Occupational Completion Point: B Clinical Medical Education Simulation Technician 1– 150 Hours – SOC Code 29-2099	
14.0	Perform operations of the simulator. -- The students will be able to:
14.01	Follow simulation set up protocol
14.02	Begin simulation
14.03	Call up events
14.04	Execute events
14.05	Power down equipment
14.06	Conduct technical debriefing with trainer
14.07	Clean up simulation environment
14.08	Create standard operating procedures (SOPs) for use of simulators
15.0	Conduct simulator set up. – The students will be able to:
15.01	Collaborate with faculty/educator to identify the objectives of the session
15.02	Collaborate with faculty/educator to identify tools and resources
15.03	Collaborate with faculty/educator to identify supplies and equipment
15.04	Load scenarios
15.05	Set up simulation environment
15.06	Load student data
15.07	Prepare competency management system
15.08	Schedule facility and staff
15.09	Pre-program scenarios
15.10	Program auxiliary equipment
16.0	Demonstrate an understanding of testing and calibrating the simulator.-- The students will be able to:
16.01	Turn on the power to the simulator

16.02	Perform calibration per manufacturer recommendations
16.03	Identify test tools and equipment
16.04	Perform bench test
16.05	Document test results
16.06	Follow industry safety standards
16.07	Identify documentation resources
16.08	Demonstrate knowledge of warranty void situations

Course Number: HSC0063 Occupational Completion Point: B Clinical Medical Education Simulation Technician 2 – 150 Hours – SOC Code 29-2099	
17.0	Perform routine maintenance on the simulator. – The students will be able to:
17.01	Clean and maintain injection sites
17.02	Flush IV lines
17.03	Maintain fluid systems
17.04	Check drain system on compressor
17.05	Perform visual inspection of system
17.06	Perform computer and peripheral diagnostics
17.07	Perform hardware, firmware, and software updates
17.08	Perform simulator environment housekeeping.
17.09	Check power sub system
17.10	Perform external cleaning protocol for simulator
17.11	Maintain maintenance log
18.0	Demonstrate troubleshooting skills as related to the simulator -- The students will be able to:
18.01	Review user log

18.02	Perform diagnostic tests
18.03	Verify functional/operational discrepancy
18.04	Perform sensory inspection
18.05	Determine if there is a hardware or software problem
18.06	Identify failed component(s)
18.07	Perform audio/visual inspection

Course Number: HSC0064 Occupational Completion Point: B Clinical Medical Education Simulation Technician 3 – 150 Hours – SOC Code 29-2099	
19.0	Demonstrate knowledge of professional development -- The students will be able to:
19.01	Perform self evaluation additional skills needed and develop plan for acquiring
19.02	Attend classes, seminars and workshops that provide updated training on simulation
19.03	Read current literature regarding simulation including manuals, journals, research
19.04	Assist medical trainer with supplemental training opportunities
20.0	Conduct installation and assembly operations -- The students will be able to:
20.01	Read all instructions
20.02	Identify safety issues
20.03	Identify components for assembly
20.04	Identify tools and resources necessary
20.05	Maintain files of manufacturer specifications for each simulator
20.06	Identify and remove damaged parts if applicable
20.07	Perform hardware installation
20.08	Complete installation documentation

	20.09 Clean work space
	20.10 Perform software installation
21.0	Perform necessary repairs to simulator.-- The students will be able to:
	21.01 Determine priority of repair
	21.02 Schedule repair time
	21.03 Identify tools and resources required
	21.04 Replace simulator component(s)
	21.05 Complete repair documentation

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Laboratory activities are an integral part of this program and include the use simulators including SimMan 3G, SimBaby and VitaSim. Simulation activities replace real world experiences with guided experiences that re fully interactive. Students are tested on clinical and decision-making skills during patience care scenarios with greater diagnostic accuracy. Patient scenarios offer immediate feedback and learners engage in repetitive practices. Instructor can create, control and deviate clinical scenarios that may be adapted to multiple learning strategies.

Special Notes

Technical content includes but is not limited to routine maintenance on patient simulators, trouble shooting skills, assembly and installation of a variety of types of simulators, and repairing simulators. Simulation protocols, the setup of simulation events, technical debriefings, and creation of standard operating procedures are also included in the content. Additional technical content includes setting up simulation environments, loading student data, pre-programming scenarios, inspection of systems, and the performance of hardware, firmware and software updates.

The MEST program has been designed to teach individuals the skills necessary to work as a technician in a patient simulation lab. Patient simulation labs are generally located in hospitals, community colleges, universities, fire departments, etc. Patient simulators are used in medical education training for both incumbent workers and students enrolled in health occupations programs.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Pharmacy Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170500
CIP Number	0351080506
Grade Level	30, 31
Standard Length	1050 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals, Skills USA
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2052 Pharmacy Technicians
Basic Skills Level	Mathematics: 11 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

The content includes but is not limited to metric system, medical terminology, medicinal drugs, pharmaceutical compounding, USP 795 standards, sterile techniques, USP 797 standards, maintenance of inventory, IV preparation, receiving and handling of hazardous materials, preparing purchase orders, receiving and checking supplies purchased, printing labels, typing prescription labels, delivering medications, pricing prescription

drug orders and supplies, prepackaging unit dose packages, patient record systems, control records, data processing automation in pharmacy, computer application, employability skills, leadership and human relations skills, health and safety, including CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	PHARMACY 7G	90 hours	31-9099
	PTN0084	Pharmacy Technician 1		360 hours	29-2052
	PTN0085	Pharmacy Technician 2		300 hours	
B	PTN0086	Pharmacy Technician 3		300 hours	

Regulated Programs

This program must be approved by the Board of Pharmacy. Program completers who wish to work as Pharmacy Technicians in the State of Florida must register with the Board of Pharmacy (465.014 F.S.).

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Practice human relations.
13.0 Identify pharmaceutical abbreviations and terminology as related to Community Pharmacy Practice.
14.0 Identify medical and legal considerations.
15.0 Perform clerical duties as related to Pharmacy Practice.
16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology.
17.0 Demonstrate knowledge of inventory control.
18.0 Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice.
19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology.
20.0 Prepare and deliver medications.
21.0 Prepackage unit dose medications.
22.0 Prepare sterile products.

Florida Department of Education
Student Performance Standards

Program Title: **Pharmacy Technician**
PSAV Number: **H170500**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: PTN0084
Occupational Completion Point: B
Pharmacy Technician 1 – 360 Hours – SOC Code 29-2052

12.0	Practice human relation skills.-The student will be able to:
12.01	Explore the meaning and duties of a pharmacy technician.
12.02	Explore the organizational flow of responsibilities within a pharmacy setting.
12.03	Understand the importance of developing and maintaining a professional rapport with co-workers.
12.04	Identify pharmacy organizations and their role in the profession.
12.05	Demonstrate an understanding of Continuing Education (CE) requirements for pharmacy technicians and how to obtain them.
12.06	Identify the current trends and perspectives in the pharmacy practice.
12.07	Identify the means by which the application of team building can facilitate change within the pharmacy working environment.
13.0	Identify pharmaceutical abbreviations and terminology as related to pharmacy practice--The student will be able to:
13.01	Utilize pharmaceutical medical terminology.
13.02	Analyze the major symbols and abbreviations used on prescriptions and state the meaning.

14.0	Identify medical and legal considerations--The student will be able to:
14.01	Articulate the significance and scope of current national and Florida law and administrative rules as they relate to the practice of the pharmacy technician.
14.02	Convey an understanding of medical legal concepts as they relate to the practice of the pharmacy technician.
14.03	Explain the need for accurate pharmacy documentation and recordkeeping.
14.04	Justify the importance of HIPAA in pharmacy practice.
14.05	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy.
14.06	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
14.07	Compare and contrast between controlled substances and their applicable regulations.
14.08	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials.
14.09	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
14.10	Understand and explain the legal requirements for final check by the pharmacist
14.11	Classify activities performed by pharmacy professionals as those that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists. For each activity, explain the rationale for the classification.
15.0	Perform clerical duties as related to Pharmacy Practice.--The student will be able to:
15.01	Design and evaluate pharmacy dispensing processes step-by-step in retail practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors.
15.02	Demonstrate computer applications in processing pharmacy prescription data.
15.03	Identify applications of E-Prescribing and facsimile.
15.04	Utilize and apply interactive communication skills while gathering of accurate information from patients and from other healthcare professionals
15.05	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements
15.06	Create, complete and maintain patient profiles.
15.07	Demonstrate telephone communication skills and routine inquiries.
15.08	Convey an understanding of appropriate practice standards pertaining to patient counseling.
15.09	Demonstrate the knowledge of systems used in maintaining pharmacy records.
15.10	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prescription processing.

16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification as it relates to the human physiology--The student will be able to:
	16.01 Define the major classifications of pharmaceuticals.
	16.02 Categorize at least one official compendia of standards for quality and purity of drugs and authoritative information on dosage, administration and therapeutic equivalents.
	16.03 Analyze pharmacy reference manuals and web sites.
	16.04 Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory control--The student will be able to:
	17.01 Convey an understanding of industry standards in purchasing pharmaceutical supplies.
	17.02 Maintain controlled substance inventory.
	17.03 Display knowledge of prescription pricing systems used in pharmacy.
	17.04 Maintain stock inventory, communicate shortages and seek alternatives.
	17.05 Prepare electronic purchase orders.
	17.06 Accurately perform the process of purchasing, receiving, storing, distributing and disposing of pharmaceutical supplies.
	17.07 Convey an understanding of industry standards in management of Investigational Drugs.
18.0	Initiate measurement and calculating techniques as it relates to compounding in pharmacy practice--The student will be able to:
	18.01 Convey an understanding of United States Pharmacopeia (USP) 795 standards.
	18.02 Convert measurements within the apothecary, avoirdupois, household and metric systems.
	18.03 Perform common pharmaceutical calculations.
	18.04 Use common pharmaceutical weighing equipment.
	18.05 Use common pharmaceutical volume measurement equipment.
	18.06 Explain the technique of preparing common pharmaceutical compounds.
	18.07 Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of non-sterile products.

Course Number: PTN0085 **Occupational Completion Point: B** **Pharmacy Technician 2 – 300 Hours – SOC Code 29-2052**	
19.0	Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology--The student will be able to:
19.01	Predict physical and chemical incompatibilities utilizing chemistry properties.
19.02	Describe electrolyte balances.
19.03	Relate the general sources, classes, indications, actions, routes and side effects of drugs.
19.04	Demonstrate an understanding of common adult doses of medications and respective contraindications.
20.0	Prepare and deliver medications--The student will be able to:
20.01	Read and prepare medication orders correctly.
20.02	Design and evaluate pharmacy dispensing processes step-by-step in institutional practice, identifying steps that may result in medication errors and explaining how the processes can be modified to prevent such errors
20.03	Check all new orders with medications listed on profiles while noting any discrepancies.
20.04	Utilize special precautions in the preparation of medications for pediatric patients.
20.05	Transport medications safely being aware of hazards: theft, legal implications of accidental loss, and other consequences.
20.06	Demonstrate the proper technique of preparing pharmaceutical compounds. .
20.07	Demonstrate the ability to correctly fill and deliver medication cassettes.
20.08	Collect data from medication administration record and drug use and evaluation form.
20.09	Demonstrate use of automated medication dispensing equipment.

Course Number: PTN0086 **Occupational Completion Point: B** **Pharmacy Technician 3 – 300 Hours – SOC Code 29-2052**	
21.0	Prepackage unit dose medications--The student will be able to:
21.01	Locate correct stock container.
21.02	Measure, count required individual doses of medication.
21.03	Label with required information utilizing “tall man” lettering.

	21.04	Operate unit dose packaging equipment.
	21.05	Place individual dose in appropriate containers, ~~re~~ prepackage in predetermined quantities.
	21.06	Prepackage unit dose hazardous drugs.
	21.07	Record prepackaged medication data correctly.
	21.08	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to prepackaging unit dose medication.
22.0	Prepare sterile products --The student will be able to:	
	22.01	Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
	22.02	Compare medication order with label on vial and check expiration date of product.
	22.03	Calculate drug dosage for parenteral use.
	22.04	Articulate common drug incompatibilities.
	22.05	Reconstitute parenteral medications.
	22.06	Use aseptic techniques to withdraw medication from stock vial measure correct quantity as instructed, select and insert it into IV solution without error.
	22.07	Use aseptic technique to withdraw medication from an ampule.
	22.08	Prepare parenteral solutions and discuss current intravenous preparation industry trends.
	22.09	Perform the preparation of total Parenteral Nutrition solutions.
	22.10	Perform the preparation of chemotherapeutic agents using proper safety techniques.
	22.11	Utilize the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
	22.12	Place label on IV solution container and keep records.
	22.13	Perform quality control check.
	22.14	Convey an understanding of storage requirements of reconstituted IV solutions.
	22.15	Convey an understanding of the proper disposal of hazardous Drugs.
	22.16	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Clinical practicum experiences are an integral part of this program.

Special Notes

Due to the clinical experiences students are engaged in through the program and to ensure the safety of both the students and the patients the recommended student to instructor ratio in the classroom is 20:1 and in the lab is 4:1.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

It is recommended that program completers take national pharmacy technician certification exam offered by the Pharmacy Technician Certification Board, 2215 Constitution Ave. NW, Washington, DC 20037-2985, (202) 429-7576. This certification is offered all year round on a continual basis.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 11, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3) (a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Records Transcribing/Healthcare Documentation**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170506
CIP Number	0351070701
Grade Level	30, 31
Standard Length	1200 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2099 Health Technologists and Technicians, All Other 31-9094 Medical Transcriptionists
Basic Skills Level	Mathematics: 9 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as SOC 31-9094 Medical Transcriptionists.

The content includes but is not limited to medical terminology, anatomy and physiology, grammar and punctuation, health care delivery systems, health information services, ethical and legal responsibilities, safety/security procedures, word processing/ transcription skills and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HIM0009	Introduction to Health Information Technology	MED RECTEC 7G MED TRANS 7G MED ASST 7G	90 hours	29-2099
B	HIM0074	Medical Transcriber 1		370 hours	31-9094
	HIM0075	Medical Transcriber 2		370 hours	
	HIM0081	Medical Transcriber 3		370 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Utilize appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Use appropriate medical and scientific terminology.
14.0 Apply concepts of disease, diagnosis and treatment of the human body.
15.0 Apply rules of English grammar and punctuation.
16.0 Utilize medical references.
17.0 Apply healthcare documentation technology.
18.0 Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist.
19.0 Explain the role of health information services.
20.0 Demonstrate ethical and legal principles with regard to the use of healthcare documentation.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Records Transcribing/Healthcare Documentation**
PSAV Number: **H170506**

Course Number: HIM0009 **Occupational Completion Point: A** **Introduction to Health Information Technology – 90 Hours – SOC Code 29-2099**	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.

	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Recognize ethical issues related to health information technology.

	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.
	11.03	Demonstrate ability to connect to the internet.
	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.

	11.05	Demonstrate ability to send and receive e-mail.
	11.06	Demonstrate ability to send messages with attached files.
	11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
	11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
	11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:	
	12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
	12.03	Identify documents that may be required when applying for a job.
	12.04	Write an appropriate resume.
	12.05	Conduct a job search.
	12.06	Complete a job application form correctly.
	12.07	Demonstrate competence in job interview techniques.
	12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	12.09	Identify acceptable work habits.
	12.10	Recognize appropriate affective/professional behavior.
	12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).

Course Number: HIM0074 Occupational Completion Point: B Medical Transcriber 1 – 370 Hours – SOC Code 31-9094		
13.0	Use appropriate medical and scientific terminology–The student will be able to:	
	13.01	Spell, define and pronounce medical words and their components.
	13.02	Define and use medical abbreviations. Brief forms, acronyms, eponyms, and foreign words and phrases commonly used in healthcare practice.

	13.03 Identify and use the medical terminology related to the structure and function of the human body.
	13.04 Identify, pronounce, spell, and define pharmacological terminology.
	13.05 Students will distinguish between or among medical homophones (soundalikes), commonly confused medical terms, and synonyms.
14.0	Apply concepts of disease, diagnosis and treatment of the human body:
	14.01 Identify and explain structure and function of the human body in health and in disease.
	14.02 Identify disorders and treatments of the human body.
	14.03 Identify and explain electrodiagnostic, imaging, laboratory, and pathology procedures and their application to diseases and disorders.
	14.04 Demonstrate knowledge of pharmacology to include indications and contraindications, dosage, methods of administration, interactions and side effects.
	14.05 Categorize surgical procedures and other interventional diagnostic and treatment modalities by specialty, indications or related diagnoses, technique, and typical findings.
15.0	Apply rules of English grammar and punctuation–The student will be able to:
	15.01 Recognize and use the principal parts of speech.
	15.02 Recognize and use punctuation marks.
	15.03 Apply rules of numerical expression.
	15.04 Apply rules of capitalization.
	15.05 Define and use abbreviations.
	15.06 Demonstrate ability to spell words in common usage.
	15.07 Evaluate and use reliable resources for research and practice.
	15.08 Apply correct medical style as defined by authorities (i.e. AHDI Book of style, AMA Manual of Style).
	15.09 Edit and proofread healthcare documentation.
	15.10 Recognize and use report formats.
16.0	Utilize medical references–The student will be able to:
	16.01 Use medical dictionaries and specialty word books.
	16.02 Identify and use trade, generic and chemical drug names utilizing reference sources.

16.03	Identify and use diagnostic test terminology.
16.04	Access, use and evaluate the reliability of resources located on the internet.

Course Number: HIM0075 Occupational Completion Point: B Medical Transcriber 2 – 370 Hours – SOC Code 31-9094	
17.0	Apply healthcare documentation technology–The student will be able to:
17.01	Demonstrate keyboarding skills with an awareness of productivity and accuracy standards and definitions.
17.02	Demonstrate use of transcription technology.
17.03	Discuss the use of commonly used dictation delivery and transcription technologies.
17.04	Students will accurately transcribe and/or edit a required minimum number of reports to include history and physical, consultations, discharge summaries, operative reports and special reports, applying competencies specified in the areas of English Language, Medical Knowledge, Technology, Healthcare Documentation, and Professional Practice.
17.05	Students will demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
17.06	Students will recognize, evaluate, and call attention to inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
17.07	Demonstrate the use of word processing programs, including commands for editing, file organization, and retrieval.
17.08	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
17.09	Demonstrate a general knowledge of speech recognition technology (SRT), its basic editing functions, and how it integrates into healthcare documentation.
17.10	Demonstrate a general knowledge of electronic healthcare records (EHR) including the functions related to dictation/transcription integration and editing, and common terminology used in EHR systems.
18.0	Practice safety and security specific of the medical transcriptionist/ healthcare documentation specialist –The student will be able to:
18.01	Follow common health information policies and procedures for security specific to the role of the medical transcriptionist/ healthcare documentation specialist.
18.02	Demonstrate workstation ergonomics specific to the medical transcriptionist/ healthcare documentation specialist.

Course Number: HIM0081
Occupational Completion Point: B
Medical Transcriber 3 – 370 Hours – SOC Code 31-9094

19.0	Explain the role of health information services–The student will be able to:
19.01	Understand the documentation workflow, will be able to explain the importance of delivering healthcare documentation in a timely manner, and apply this concept.
19.02	Explain the use of the health record by state and federal regulatory and licensing agencies and accrediting bodies/agencies.
19.03	Students will demonstrate an awareness of the opportunities in medical transcription/ healthcare documentation and related careers and the importance of professional development.
20.0	Demonstrate ethical and legal principles with regard to the use of healthcare documentation–The student will be able to:
20.01	Explain the importance of maintaining ethical and legal standards in compiling and using healthcare documentation.
20.02	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI).
20.03	Explain medical record authentication and its legal implications.
20.04	Explain the scope of practice of the medical transcriptionist/ healthcare documentation specialist.
20.05	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).
20.06	Discuss the code of ethics of the American Health Information Management Association (AHIMA).
20.07	Discuss Health Insurance Portability and Accountability Act (HIPAA) regulations as these regulations apply to healthcare documentation.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students..

Special Notes

For those programs preparing students for the Registered Healthcare Documentation Specialist industry certification through Association for the Healthcare Documentation Integrity (AHDI) the model curriculum of the AHDI should be used to properly prepare students for this examination. Industry Certification is voluntary and is sponsored by the AHDI.

4230 Kiernan Avenue
Suite 130
Modesto, CA 95356
Phone: Toll Free (800) 982-2182 - Direct (209) 527-9620
Fax: 209-527-9633.
Students should be encouraged to become members of their professional organization, and participate in the state/local chapter activities.

The program should prepare the graduate to take the national examination to become a Registered Medical Transcriptionist. Certification is voluntary and is sponsored by the Association for Healthcare Documentation Integrity (AHDI).

Outcomes 01- 12 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170515
CIP Number	0351080102
Grade Level	30, 31
Standard Length	1300 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9092 Medical Assistants 31-9099 Healthcare Support Workers, All Other 43-4171 Receptionists and Information Clerks 31-9097 Phlebotomists
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as medical assistants SOC 31-9092.

The content includes but is not limited to communication, transcultural communication in healthcare, interpersonal skills, legal and ethical responsibilities, health-illness concepts, administrative and clinical duties, emergency procedures including CPR and first aid, emergency preparedness, safety and security procedures, medical terminology, anatomy and physiology, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 5 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	MED ASST 7G LAB TECH @7 7G REG NURSE 7 G PRAC NURSE @7 %7%G (Must be a Registered Nurse) TEC MED !7 G	90 hours	31-9099
B	MEA0002	Introduction to Medical Assisting	MED ASST 7G LAB TECH @7 7G REG NURSE 7 G BUS ED 1@2 VOE @7 STENOG @4 SECRETAR 7 G CLERICAL @7 7G PRAC NURSE @7 %7%G (Must be a Registered Nurse) TEC MED !7 G	250 hours	31-9092
	MEA0501	Medical Office Procedures		75 hours	43-4171
C	MEA0521	Phlebotomist, MA	MED ASST 7G LAB TECH @7 7G REG NURSE 7 G PRAC NURSE @7 %7%G (Must be a	75 hours	31-9097
D	MEA0543	EKG Aide, MA		75 hours	31-9099
E	MEA0581	Clinical Assisting		230 hours	31-9092
	MEA0530	Pharmacology for Medical Assisting		90 hours	

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
	MEA0573	Laboratory Procedures	Registered Nurse) TEC MED !7 G	125 hours	
	MEA0506	Administrative Office Procedures		90 hours	
	MEA0942	Practicum Experience		200 Hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate communication skills used by medical assistants.
13.0 Demonstrate knowledge of legal and ethical responsibilities for medical assistants.
14.0 Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states.
15.0 Demonstrate basic clerical/medical office duties.
16.0 Demonstrate accepted professional, communication, and interpersonal skills.
17.0 Discuss phlebotomy in relation to the health care setting.
18.0 Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist.
19.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances.
20.0 Demonstrate skills and knowledge necessary to perform phlebotomy.
21.0 Practice infection control following standard precautions.
22.0 Practice accepted procedures of transporting, accessioning and processing specimens.
23.0 Practice quality assurance and safety.
24.0 Describe the role of a medical assistant with intravenous therapy in oncology and dialysis.
25.0 Describe the cardiovascular system.
26.0 Identify legal and ethical responsibilities of an EKG aide.
27.0 Perform patient care techniques in the health care facility.
28.0 Demonstrate knowledge of, apply and use medical instrumentation modalities.
29.0 Demonstrate basic office examination procedures.
30.0 Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques.
31.0 Demonstrate minor treatments.
32.0 Demonstrate knowledge of basic diagnostic medical assisting procedures.
33.0 Demonstrate basic X-Ray procedures.
34.0 Demonstrate knowledge of pharmaceutical principles and administer medications.
35.0 Perform CLIA-waived diagnostic clinical laboratory procedures.
36.0 Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision.

37.0 Demonstrate knowledge of emergency preparedness and protective practices.
38.0 Perform administrative office duties.
39.0 Perform administrative and general skills.
40.0 Perform clinical and general skills.
41.0 Display professional work habits integral to medical assisting.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Assisting**
PSAV Number: **H170515**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: MEA0002 **Occupational Completion Point: B** **Introduction to Medical Assisting – 250 Hours – SOC Code 43-4171**	
12.0	Demonstrate communication skills used by medical assistants. – The student will be able to:
12.01	Organize written and verbal ideas in a concise, precise and logical manner.
12.02	State examples of both verbal and non-verbal communication.
12.03	Use medical terminology as appropriate for a medical assistant.
12.04	Comply with safety signs, symbols, and labels.
12.05	Describe the role of the medical assistant.
13.0	Demonstrate knowledge of legal and ethical responsibilities for medical assistants. – The student will be able to:
13.01	Provide health care as set forth in Florida Statute for the medical assistant.
13.02	Distinguish between the liability of the physicians and staff members in the medical office.
13.03	Explain the principles for preventing medical liability.
13.04	List the principles in the Codes of Ethics for Medical Assistants as stated by the American Association of Medical Assistants.

14.0	Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states. – The student will be able to:
14.01	Define the terms Anatomy and Physiology
14.02	Define both medical terms and abbreviations related to all body systems.
14.03	Define the principle directional terms, planes, quadrants and cavities used in describing the body and the association of body parts to one another.
14.04	Define the levels of organization of the body inclusive of, but not limited to, cells, organs and body systems.
14.05	Describe the function of the 11 major organ systems of the body (1) Integumentary, (2) skeletal, (3) muscular, (4) Nervous, (5) endocrine, (6) circulatory (cardiovascular) (7) lymphatic, (8) respiratory, (9) digestive, (10) urinary, and (11) reproductive.
14.06	Describe symptoms and common disease pathology related to each body system and the relationship of the disease process to other body systems.
14.07	Discuss diagnostic options to identify common disease pathology and corresponding basic treatment.
14.08	Compare structure and function of the body across the life span.
14.09	Identify and describe dietary guidelines necessary for common diseases.
14.10	Create a patient teaching plan which addresses dietary guidelines and special needs.

Course Number: MEA0501 **Occupational Completion Point: B** **Medical Office Procedures – 75 Hours – SOC Code 43-4171**	
15.0	Demonstrate basic clerical/medical office duties. – The student will be able to:
15.01	Perform effective communication skills essential to the medical office.
15.02	Maintain filing systems.
15.03	Operate office equipment and perform clerical office procedures.
15.04	Discuss principles of using Electronic Medical Record (EMR).
15.05	Prepare and maintain medical records both manually and within the Electronic Medical Record (EMR).
15.06	Screen and process mail.
15.07	Schedule routine appointments and patient admissions and/or procedures both manually and within the Electronic Medical Record (EMR).
15.08	Adhere to current government regulations, risk management and compliance within the scope of practice of a Medical Assistant practicing in the State of Florida.

15.09	Maintain office inventory.
15.10	Inform patients of office policies both verbally and written.
15.11	Perform general housekeeping duties.
15.12	Perform daily office activities both manually and within the Electronic Medical Record (EMR).
15.13	Receive patients and visitors.
15.14	Identify and maintain office security policies/procedures.

Course Number: MEA0521 **Occupational Completion Point: C** **Phlebotomist, MA – 75 Hours – SOC Code 31-9097**	
16.0	Demonstrate accepted professional, communication, and interpersonal skills. – The student will be able to:
16.01	Demonstrate the appropriate professional behavior of a phlebotomist.
16.02	Explain to the patient the procedure to be used in specimen collection.
16.03	Explain in detail the importance of identifying patients correctly when drawing blood.
16.04	Describe the scope of practice (job skills and duties) for a phlebotomist.
16.05	List and describe professional organizations that provide accreditation, certification, and licensure to phlebotomists and phlebotomy programs.
16.06	Explain the importance of continuing education in relation to certification to maintain competency and skills.
17.0	Discuss phlebotomy in relation to the health care setting. – The student will be able to:
17.01	List, classify and discuss various departments and services within the health care setting with which the phlebotomist must interact to obtain laboratory specimens from patients.
17.02	Identify the major departments/sections within the clinical laboratory, the major types of procedures run in each department/section, and their specimen requirements.
17.03	Describe roles of the major classifications of clinical laboratory personnel (i.e., pathologist, chief/administrative technologist, CLS, MLS, MLT, MT, phlebotomist, lab assistant, etc.).
18.0	Identify the anatomic structure and function of body systems in relation to services performed by a phlebotomist. – The student will be able to:
18.01	Describe and define major body systems with emphasis on the circulatory system.
18.02	List and describe the main superficial veins used in performing venipuncture.

	18.03 Locate the most appropriate site(s) for both capillary and venipuncture.
	18.04 Describe the function of the following blood components: erythrocytes, thrombocytes, leukocytes and plasma.
	18.05 Compare and contrast between serum and plasma as it relates to blood collection.
	18.06 Discuss hemostasis as it relates to blood collection.
19.0	Recognize and identify collection reagents supplies, equipment and interfering chemical substances. – The student will be able to:
	19.01 Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
	19.02 Explain the special precautions and types of equipment needed to collect blood from a.pediatric patient.
	19.03 Identify and discuss proper use of supplies used in collecting microspecimens.
	19.04 Identify and discuss the proper use of the various types of anticoagulants, preservatives and gels used in blood collection and the vacuum tube color-codes for these additives.
	19.05 Describe the types of patient's specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
	19.06 Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
	19.07 Define and utilize correct medical terminology and metric measurement needed for specimen collection.
20.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
	20.01 Follow approved procedure for completing a laboratory requisition form.
	20.02 Recognize a properly completed requisition and apply established protocol for patient and specimen identification for transport to a reference lab.
	20.03 Demonstrate knowledge of established protocol for patient and specimen identification in the Physician Office Laboratory (POL)
	20.04 Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
	20.05 List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
	20.06 Perform venipuncture by evacuated tube, butterfly, and syringe systems, demonstrating appropriate use of supplies, proper handling of equipment and specimens, and appropriate patient care.
	20.07 Describe the correct order of draw.
	20.08 Describe the use of barcoding systems used for specimen collection.
	20.09 Perform a capillary puncture using appropriate supplies and techniques for both adults and pediatric patients.
	20.10 Describe the most common complications associated with capillary and venipuncture, their causes, prevention and treatment.

	20.11 Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope and light headedness.
	20.12 Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
	20.13 Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
	20.14 Demonstrate the proper procedure for collecting blood cultures.
	20.15 Discuss the effects of hemolysis and methods of prevention.
	20.16 Demonstrate a working understanding of how age and weight of patients impacts the maximum amount of blood that can be safely drawn.
21.0	Practice infection control following standard precautions. – The student will be able to:
	21.01 Define the term "nosocomial/ hospital acquired infection."
	21.02 Describe and practice procedures for infection prevention including hand washing skills.
	21.03 Discuss and perform transmission based precautions.
	21.04 Identify potential routes of infection and their complications.
22.0	Practice accepted procedures of transporting, accessioning and processing specimens. – The student will be able to:
	22.01 Demonstrate good laboratory practice for preparation and processing (e.g. - centrifugation, separation, aliquoting, labeling, and storage) of serum, plasma, urine, sputum, stool, and wound culture specimens.
	22.02 Demonstrate knowledge of accessioning procedures.
	22.03 Describe the significance of time constraints for specimen collection and delivery.
	22.04 Describe routine procedures for transporting and processing specimens including DOT packaging requirements.
	22.05 Follow protocol for accepting verbal test orders and explain procedure for obtaining signature or other form of authentication of verbal orders.
23.0	Practice quality assurance and safety. – The student will be able to:
	23.01 Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.
	23.02 Demonstrate knowledge of and practice appropriate patient safety.
	23.03 Practice safety in accordance with OSHA (State & Federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps.
	23.04 Follow documentation procedures for work related accidents.
	23.05 Implement appropriate Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.

24.0	Describe the role of a medical assistant with intravenous therapy in oncology and dialysis. – The student will be able to:
	24.01 Outline the principles of Intravenous Therapy.
	24.02 Demonstrate knowledge of Intravenous terminology, practices and equipment.
	24.03 Describe the dangers of Intravenous Treatment.
	24.04 Describe role of Medical Assistant in Assisting with Intravenous Therapy.

Course Number: MEA0543 **Occupational Completion Point: D** **EKG Aide, MA – 75 Hours – SOC Code 31-9099**	
25.0	Describe the cardiovascular system. – The student will be able to:
	25.01 Locate the heart and surrounding structures.
	25.02 Diagram and label the parts of the heart and list the functions of each labeled part.
	25.03 Trace the flow of blood through the cardiopulmonary system.
26.0	Identify legal and ethical responsibilities of an EKG aide. – The student will be able to:
	26.01 Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
	26.02 Maintain a safe and efficient work environment.
	26.03 Maintain EKG equipment so it will be safe and accurate.
27.0	Perform patient care techniques in the health care facility. – The student will be able to:
	27.01 Describe the physical preparation of the patient for EKG testing.
	27.02 Identify patient and verify the requisition order.
	27.03 Prepare patient for EKG testing.
	27.04 State precautions required when performing an EKG.
28.0	Demonstrate knowledge of, apply and use medical instrumentation modalities. – The student will be able to:
	28.01 Calibrate and standardize the cardiograph instrument.
	28.02 Identify three types of lead systems.

28.03	State Einthoven's triangle.
28.04	Demonstrate proper lead placement including lead placement for patients with special needs
28.05	Demonstrate knowledge of the application of a Holter Monitor and provide patient education of its use.
28.06	Identify artifacts and mechanical problems.
28.07	Perform a 12 lead EKG.
28.08	Perform a rhythm strip.
28.09	Recognize normal sinus rhythm.
28.10	Report any rhythm that is not normal sinus rhythm.
28.11	Recognize a cardiac emergency as seen on the EKG.
28.12	Use documentation skills to identify electrocardiographs.

Course Number: MEA0581 **Occupational Completion Point: E** **Clinical Assisting – 230 Hours – SOC Code 31-9092**	
29.0	Demonstrate basic office examination procedures. – The student will be able to:
29.01	Prepare patients for and assist the physician with physical examinations including, but not limited to, pre and post-natal, male and female reproductive, rectal, and pediatric.
29.02	Measure and record vital signs, recognizing abnormalities and danger signs.
29.03	Measure and record a pulse pressure
29.04	Measure and record an apical pulse.
29.05	Measure and record a orthostatic blood pressure
29.06	Record patient data.
29.07	Instruct patient on breast and testicular self-examinations.
29.08	Assist with pediatric procedures, including, but not limited to, weighing, measuring, and collecting specimens.
29.09	Instruct patients regarding health care and wellness practices.
29.10	Prepare patients for diagnostic procedures.

30.0	Demonstrate knowledge of the fundamentals of microbial control and use aseptic techniques. – The student will be able to:
30.01	Demonstrate competence in sanitation, disinfection and sterilization.
30.02	Identify common instruments.
30.03	Sterilize and maintain instruments and supplies.
30.04	Sanitize instruments.
30.05	Wrap articles for autoclave.
30.06	Sterilize articles in autoclave.
30.07	Chemically disinfect articles.
30.08	Practice infection control and contamination prevention.
30.09	Safely handle contaminated equipment and supplies.
30.10	Create and maintain sterile fields for dressings and minor surgery.
30.11	Prepare for minor surgical procedures including surgical hand wash.
30.12	Remove sutures and staples.
30.13	Correctly dispose of contaminated materials.
31.0	Demonstrate minor treatments. – The student will be able to:
31.01	Perform minor treatments as directed by the physician including hot and cold therapy, (which includes, but is not limited to the following: hot water bag, heating pad, hot soaks and compresses, ice bag, cold compresses and packs.)
31.02	Assist the physician with examination, treatment, and/or minor surgery.
31.03	Organize examination and treatment areas before, during, and after patient care.
31.04	Perform orthopedic procedures, including but not limited to the following: crutch measurements and instruction in use of canes, crutches, walkers, and wheelchairs.
31.05	Demonstrate the knowledge of casting procedures and supplies.
31.06	Apply all types of roller bandages using turns as appropriate.
31.07	Perform eye irrigations and instillations.
31.08	Perform ear irrigations and instillations.

32.0	Demonstrate knowledge of basic diagnostic medical assisting procedures. – The student will be able to:
32.01	Perform visual and auditory screening.
32.02	Demonstrate knowledge of ultrasound treatment.
32.03	Perform spirometry.
32.04	Perform oximetry.
32.05	Assist in the performance of a Pap and Pelvic.
33.0	Demonstrate basic X-Ray procedures. – The student will be able to:
33.01	Describe the basic operation of X-Ray equipment and accessories.
33.02	Describe how to maintain x-ray film files.
33.03	Describe computed and digital radiography systems.
33.04	Demonstrate knowledge of the principles of exposure quality.
33.05	Evaluate X-Ray film quality.
33.06	Describe X-Ray principles and safety practices.
33.07	Instruct patient in preparation for basic X-Ray examinations.
33.08	Position patients for basic x-rays.
33.09	Use precautions and provide appropriate protection for patients and staff in the presence of ionizing radiation.
33.10	Maintain a safe working environment in radiological work areas.

Course Number: MEA0530 **Occupational Completion Point: E** **Pharmacology for Medical Assisting – 90 Hours – SOC Code 31-9092**	
34.0	Demonstrate knowledge of pharmaceutical principles and administer medications. – The student will be able to:
34.01	Identify commonly administered drugs, their uses and effects.
34.02	Use correct pharmaceutical abbreviations and terminology.
34.03	Identify various methods and routes of drug administration.

34.04	Instruct patients regarding self-administration of medications.
34.05	Calculate dosage and administer pharmaceuticals to correct anatomical sites, to correct patient, by correct route of administration, at the correct time and chart correctly.
34.06	Demonstrate knowledge of the legal and ethical standards related to the administration and the dispensing of drugs in the office setting under the doctor's supervision.
34.07	Demonstrate knowledge of emergency medications for various body systems.
34.08	Identify the dangers and complications associated with drug administration
34.09	Report medication errors.
34.10	Demonstrate appropriate techniques to:
34.10.01	Prepare and administer non-parenteral medications (solid & liquids).
34.10.02	Prepare and administer parenteral medications.
34.10.03	Reconstitute powdered drugs.
34.10.04	Prepare injections from ampules and vials.
34.10.05	Apply the Seven Rights of Drug Administration

Course Number: MEA0573 **Occupational Completion Point: E** **Laboratory Procedures – 125 Hours – SOC Code 31-9092**	
35.0	Perform CLIA-waived diagnostic clinical laboratory procedures. --The students will be able to:
35.01	Recognize signs and symptoms that may indicate to the physician a need for laboratory testing.
35.02	Describe the criteria used by Food and Drug Administration (FDA) to classify a test as “CLIA waived” and the regulatory constraints on test performance.
35.03	Explain the methods of quality control for CLIA-waived testing, identify acceptable and unacceptable control results, and describe specific corrective action required when results are unacceptable.
35.04	Demonstrate proper technique for the collection of urine, capillary whole blood (finger/heel stick), culture material (throat/nasal swab) and other specimen types required for CLIA-waived tests.
35.05	Instruct patients in the proper collection of urine (clean catch, mid-stream), sputum and stool specimens.
35.06	Perform CLIA-waived occult blood tests.
35.07	Perform CLIA-waived urinalysis testing including color and turbidity assessment , specific gravity and reagent test strips.

	35.08 Perform CLIA-waived hematology tests (e.g. - hemoglobin, hematocrit).
	35.09 Perform CLIA-waived chemistry tests (e.g. - glucose, cholesterol)
	35.10 Perform CLIA-waived pregnancy tests.
	35.11 Perform CLIA-waived infectious disease testing (e.g. – strep screen, mono test, influenza A/B)
	35.12 Explain Meaningful Use and how it affects the role of the medical assistant regarding the input of laboratory test orders in the EMR.
36.0	Demonstrate awareness of clinical microscopy techniques and procedures that may be performed in CLIA-exempt laboratories under physician supervision– The student will be able to:
	36.01 Explain the CLIA-exemption for physician office laboratories
	36.02 Define the term “Provider Performed Microscopy” (PPM) and the regulatory constraints on test performance.
	36.03 Demonstrate the operation of a compound microscope using direct and oil immersion lens.
	36.04 Prepare a urine sediment for microscopic exam.
	36.05 Differentiate between gram positive and gram negative organisms.
	36.06 Explain the purpose of Wright’s stained blood smears.
37.0	Demonstrate knowledge of emergency preparedness and protective practices. --The student will be able to:
	37.01 Maintain and operate emergency equipment and supplies.
	37.02 Evaluate the work environment to identify safe vs. unsafe working conditions.
	37.03 Participate in a mock environmental exposure event and document steps taken.
	37.04 Explain an evacuation plan for a physician’s office.
	37.05 Maintain a current list of community resources for emergency preparedness.

Course Number: MEA0506 **Occupational Completion Point: E** **Administrative Office Procedures– 90 Hours – SOC Code 31-9092**	
38.0	Perform administrative office duties. – The student will be able to:
	38.01 Execute data management using Electronic Medical Record (EMR) including, but not limited to, patient registration, appointment scheduling, charting, billing and insurance processing, procedure and diagnostic coding, ordering and monitoring patient testing, medication and prescription orders, keyboarding and correspondence, and performing an office inventory.

38.02	Explain Meaningful Use and how it applies to the medical assistant regarding the documentation of physician orders in the Electronic Medical Record (EMR).
38.03	Execute non EMR data management including, but not limited to, selecting appropriate procedure and diagnostic codes, process insurance data and claims, develop and maintain billing and collection systems, and keyboarding documents.
38.04	Perform various financial procedures, including, but not limited to, billing and collection procedures, payroll procedures, and checkbook procedures.
38.05	Maintain personnel records.

Course Number: MEA0942
Occupational Completion Point: E
Practicum Experience – 200 Hours – SOC Code 31-9092

This "Practicum" experience is a supervised, unpaid experience of 200 contact hours in an ambulatory health care setting performing administrative and clinical procedures and must be completed prior to graduation. Students ready for the Practicum experience have completed all other program requirements and are eligible for this final phase in the program.

The program should ensure that the experience and instruction of students are meaningful and parallel in content and concept with the material presented in lecture and laboratory sessions. Sites should be selected so that each student is afforded a variety of experiences, while at the same time all students are provided consistent learning opportunities.

This experience provides an opportunity for students to utilize both administrative and clinical skills learned in the Medical Assistant classroom and clinical environment in a local clinic, physician's office, or other health care facility.

The students Practicum should be performed in a professional environment under conditions of strict supervision and guidance of a licensed physician and clinical coordinator. An individual who has knowledge of the medical assisting profession must provide on-site supervision of the student.

The actual hands-on experiences will tie-in all the educational components based on theory and competency based instruction that the student learned in the laboratory and classroom setting.

This course is set to assess the student in their ability to utilize all critical thinking applications learned during the program and to apply these critical thinking skills during the Practicum experience. The healthcare facility and the learning college/institute will expect the student to utilize good work ethics, show excellent civic responsibilities, and further learn to both embrace and respect cultural diversity.

39.0	Perform administrative and general skills – the student will be able to:
39.01	Demonstrate proper and professional telephone technique.
39.02	Recognize and respond to verbal communication.
39.03	Recognize and respond to non-verbal communication.

	39.04 Maintain confidentiality and adhere to HIPAA regulations.
	39.05 Document both manually and electronically appropriately.
	39.06 Schedule appointments manually and electronically accurately.
	39.07 Schedules inpatient and/or outpatient procedures accurately.
	39.08 Organize patients' medical records.
	39.09 File medical records accurately.
	39.10 Prepare bank deposits accurately.
	39.11 Post entries on manual/electronic day sheet.
	39.12 Perform billing and /or ICD-9/10 and/or CPT coding.
	39.13 Greet patients courteously and professionally.
	39.14 Obtain or verify patient precertification or preauthorization.
	39.15 Demonstrate safety and quality assurance in the workplace.
40.0	Perform clinical and general skills – the student will be able to:
	40.01 Demonstrate aseptic hand washing technique.
	40.02 Dispose of bio-hazardous waste in appropriate containers.
	40.03 Adhere to sterilization techniques according to standards.
	40.04 Practice standard precautions.
	40.05 Demonstrate venipuncture and/or capillary punctures.
	40.06 Instruct patients in the collection of specimens.
	40.07 Demonstrate electrocardiography.
	40.08 Demonstrate respiratory testing.
	40.09 Demonstrate CLIA waived testing.
	40.10 Stage patients and obtain vital signs.

	40.11 Obtain and record patient histories.
	40.12 Prepare and maintain examination and treatment area(s).
	40.13 Prepare patient for examinations and/or minor office procedures.
	40.14 Assist with examinations and/or minor office procedures.
	40.15 Prepare medications and/or perform non-intravenous injections.
	40.16 Provide and document patient education.
	40.17 Accurately record and report laboratory tests.
41.0	Display professional work habits integral to medical assisting. – the student will be able to:
	41.01 Communicate appropriately in healthcare settings by listening, writing, speaking and presenting with professional demeanor.
	41.02 Collaborate, communicate and interact professionally with other healthcare professionals utilizing technology.
	41.03 Contribute to team efforts by fulfilling responsibilities and valuing diversity.
	41.04 Explore networking opportunities through professional associations.
	41.05 Exercise proper judgment and critical thinking skills in decision making.
	41.06 Adapt to changing organizational environments with flexibility.
	41.07 Build a portfolio reflecting experiences and skills gained during the externship.
	41.08 Report as expected, on time, appropriately dressed and groomed and ready to work.
	41.09 Model acceptable work habits as defined by company policy.
	41.10 Complete and follow through on tasks using time management skills and take initiative as warranted.
	41.11 Respond appropriately and quickly to patient's needs and concerns.
	41.12 Practice etiquette and social sensitivity in face to face interaction, on the telephone and the Internet.
	41.13 Actively adhere to policies and procedures that protect the patient's confidentiality and privacy.
	41.14 Display an understanding of resources related to patients' healthcare needs.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Although it is not required, it is strongly recommended that the programs meet the Standards and Guidelines of an Accredited Educational Program for the Medical Assistant adopted by the American Association of Medical Assistants and the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or the American Medical Technologist and the Accrediting Bureau of Health Education Schools (ABHES).

For further information contact:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
Phone: 727-210-2350
Fax: 727-210-2354

Accrediting Bureau of Health Education Schools (ABHES)
777 Leesburg Pike, Suite 312
N. Falls, VA 22043
(703) 917-9503

This Program Will Also Be In Accordance With Florida Statute Medical Assistants, 458.3485 F.S.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Program completers of a CAAHEP or ABHES accredited program are eligible to take the American Association of Medical Assistants' Certification Examination (CMA) or the American Medical Technologists' Certification Examination (RMA). For further information contact:

American Association of Medical Assistants (AAMA)
20 North Wacker Drive, Suite 1575
Chicago, Illinois 60606 (312/899-1500)
Or
American Medical Technologist (AMT)
10700 West Higgins Road, Suite 150
Rosemont, Illinois 60018 (800 275-1268)

The Medical Assistant graduate may be prepared to take the Basic X-Ray Machine Operator State exam.
Contact: Bureau of Radiation Control
4052 Bald Cypress Way, Bin #C85 Tallahassee, FL 32399-3252
Phone: (850) 245-4910

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted

from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Medical Coder/Biller**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170529
CIP Number	0351070716
Grade Level	30, 31
Standard Length	1110 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 9 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The program is designed to prepare students for employment in a variety of health care settings as entry level coder, medical record coder, coding technician, or coding clerks, or medical coder/biller or SOC Code 29-2071(Medical Records and Health Information Technicians).

The content includes but is not limited to medical terminology, anatomy and physiology, coding systems, fundamentals of disease process including pharmacology, health care delivery systems, basics of medical records services, ethical and legal responsibilities, safety/security procedures, basic data processing, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HIM0009	Introduction to Health Information Technology	CER COD SP 7 G MED RECTEC 7G MED ASST 7G MED TRANS 7G	90 hours	29-2099
B	HIM0091	Medical Coder/Biller I		350 hours	29-2071
	HIM0092	Medical Coder/Biller II		350 hours	
	HIM0093	Medical Coder/Biller III		320 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Explore health informatics and information management as a profession.
04.0 Demonstrate an understanding of health data concepts.
05.0 Describe the functions of a health record.
06.0 Demonstrate a basic understanding of Health Information Technology.
07.0 Discuss classification systems, clinical vocabularies and terminologies.
08.0 Explore ethical issues in Health Informatics and Information Management.
09.0 Identify the importance of privacy and health records law in healthcare.
10.0 Utilize appropriate health services organization and delivery system regulations.
11.0 Demonstrate computer knowledge and skills.
12.0 Demonstrate employability skills.
13.0 Describe the anatomy and physiology of the human body.
14.0 Demonstrate proficiency in the application of medical terminology.
15.0 Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology.
16.0 Demonstrate proficiency in the use of ICD and CPT coding systems, both manual and automated.
17.0 Demonstrate proficiency in ICD coding complexities.
18.0 Explain the significance of health information services to the Medical Coder/Biller.
19.0 Demonstrate ethical and legal principles with regard to the use of medical records.
20.0 Demonstrate understanding of medical billing.

Florida Department of Education
Student Performance Standards

Program Title: **Medical Coder/Biller**
PSAV Number: **H170529**

Course Number: HIM0009 **Occupational Completion Point: A** **Introduction to Health Information Technology – 90 Hours – SOC Code 29-2099**	
01.0	Demonstrate an understanding of the healthcare delivery system and health occupations–The student will be able to:
01.01	Discuss the evolution of healthcare.
01.02	Demonstrate an understanding of the infrastructure of healthcare in the United States.
01.03	Discuss regulatory agencies and organizations within the healthcare delivery system
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:
02.01	Develop basic speaking and active listening skills.
02.02	Develop basic observational skills and related documentation strategies in written and oral form.
02.03	Identify characteristics of successful and unsuccessful communication including barriers.
02.04	Respond to verbal and non-verbal cues.
02.05	Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.
02.06	Observe professional e-mail practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Recognize the importance of patient/client educations regarding healthcare.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
02.11	Recognize elements of communication using a sender-receiver model.

	02.12 Distinguish between and report subjective and objective information.
	02.13 Report relevant information in order of occurrence.
03.0	Explore health information management as a profession–The student will be able to:
	03.01 Discuss the history of health information management.
	03.02 Discuss the professional opportunities within the health information management profession.
	03.03 Demonstrate knowledge of professional associations within HIM.
04.0	Demonstrate an understanding of health data concepts–The student will be able to:
	04.01 Describe the various uses of health data (primary and secondary).
	04.02 Describe various characteristics of health data quality and standards.
05.0	Describe the functions of a health record–The student will be able to:
	05.01 Demonstrate an understanding of the various formats of the health record.
	05.02 Explain the various uses of a health record.
	05.03 Follow medical records policies and procedures for security, including confidentiality.
06.0	Demonstrate a basic understanding of Health Information Technology–The student will be able to:
	06.01 Discuss how healthcare reform legislation can and does affect the HIT field.
	06.02 Interpret information from Electronic Health Records (EHR) and applications in healthcare
	06.03 Demonstrate an understanding of creation, use, and purpose of the electronic health record.
07.0	Discuss classification systems, clinical vocabularies and terminologies–The student will be able to:
	07.01 Demonstrate knowledge of administrative terminologies as they relate to HIM.
	07.02 Demonstrate knowledge of clinical terminologies as they relate to HIM.
08.0	Explore ethical issues in Health Information Management–The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Recognize ethical issues related to health information technology.

	08.03	Recognize ethical issues related to coding and billing/ healthcare documentation.
	08.04	Demonstrate basic knowledge of accreditation standards and licensure agencies.
09.0	Identify the importance of privacy and health records law in healthcare–The student will be able to:	
	09.01	Explain the importance of maintaining ethical and legal standards in compiling and using paper-based and electronic health/medical records.
	09.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	09.03	Define and explain the composition of the legal patient record.
	09.04	Follow medical records policies and procedures for security, including confidentiality.
10.0	Demonstrate knowledge of appropriate health services organization and delivery system regulations. – The student will be able to:	
	10.01	Demonstrate knowledge of information system policies and procedures required by national health information initiatives on the healthcare delivery system.
	10.02	Demonstrate knowledge of current laws, accreditation, licensure, and certification standards related to health information initiatives from the national, state, local, and facility levels.
	10.03	Demonstrate knowledge of policies and procedures to comply with the changing regulations among various payment systems for healthcare services such as Medicare, Medicaid, managed care, etc.
	10.04	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
	10.05	Describe how to monitor and re-adjust workflow as necessary.
	10.06	Describe the most significant legal and regulatory requirements related to the health information infrastructure.
	10.07	Demonstrate knowledge of policies and procedures for access and disclosure of personal health information.
	10.08	Describe procedures for patient-specific data to authorized users.
	10.09	Identify and recommend solutions to privacy issues/problems.
	10.10	Implement appropriate Joint Commission patient safety goals and other applicable regulating/accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills–The student will be able to:	
	11.01	Demonstrate keyboarding skills.
	11.02	Demonstrate the ability to create, manage, organize and retrieve files.
	11.03	Demonstrate ability to connect to the internet.
	11.04	Demonstrate ability to perform research on the internet by identifying reliable websites.

11.05	Demonstrate ability to send and receive e-mail.
11.06	Demonstrate ability to send messages with attached files.
11.07	Demonstrate proficiency in Microsoft Office Suite including Word, Excel and PowerPoint.
11.08	Demonstrate the ability to install software programs as downloads or from a computer disk.
11.09	Demonstrate knowledge of safe computer practices and security procedures including but not limited to encryption, passwords and biometrics.
12.0	Demonstrate employability skills–The student will be able to:
12.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Define basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. courtesy and self-introductions).
12.03	Identify documents that may be required when applying for a job.
12.04	Write an appropriate resume.
12.05	Conduct a job search.
12.06	Complete a job application form correctly.
12.07	Demonstrate competence in job interview techniques.
12.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
12.09	Identify acceptable work habits.
12.10	Recognize appropriate affective/professional behavior.
12.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services or biotechnology research and development).
Course Number: HIM HIM0091 Occupational Completion Point: B Medical Coder/Biller I – 350 Hours – SOC Code 29-2071	
13.0	Describe the anatomy and physiology of the human body–The student will be able to:
13.01	Describe the structure and function of the respiratory system.
13.02	Describe the structure and function of the circulatory system.
13.03	Describe the structure and function of the musculoskeletal & connective tissue system.

	13.04 Describe the structure and function of nervous and sensory systems.
	13.05 Describe the structure and function of the reproductive system.
	13.06 Describe the structure and function of the urinary system.
	13.07 Describe the structure and function of the digestive system.
	13.08 Describe the structure and function of the endocrine system.
14.0	Demonstrate proficiency in the application of medical terminology–The student will be able to:
	14.01 Recognize and identify word parts of medical terminology in daily use.
	14.02 Build, spell and pronounce correctly, appropriate terms from word parts learned and be able to give the meaning of the word.
	14.03 Identify word parts and be able to build, spell and understand new words with those parts.
	14.04 Spell and use medical abbreviations.
	14.05 Recognize and identify terminology of hospital and other clinical forms.
	14.06 Demonstrate use of basic terminology common to medical/surgical practices.
	14.07 Use medical reference materials.
15.0	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body, including pharmacology–The student will be able to:
	15.01 Demonstrate an understanding of the predisposing factors and direct causes of disease as they relate to the human body.
	15.02 Demonstrate an understanding of the general morphology of organisms and their role in the disease process.
	15.03 Demonstrate an understanding of the pathogenesis of diseases of all the body systems.
	15.04 Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
	15.05 Identify and use diagnostic test terminology.
Course Number: HIM HIM0092 Occupational Completion Point: B Medical Coder/Biller II – 350 Hours – SOC Code 29-2071	
16.0	Demonstrate proficiency in use of ICD and CPT coding systems, both manual and automated–The student will be able to:
	16.01 Outline the development of nomenclatures and classification systems.
	16.02 Identify conventions and guidelines used in coding.

	16.03	Describe the process to annually update coding resources.
	16.04	Demonstrate the ability to code CPT and HCPCS II Codes with a focus on correct coding and sequencing of CPT codes for Anesthesia; Evaluation & Management (E&M); Surgery; Pathology and Laboratory; Radiology , and Medicine.
	16.05	Identify when it is appropriate to use HCPCS Level II codes and how to code them correctly.
	16.06	Use case studies and authentic medical records/abstracts to code intermediate and advanced, complex procedure code assignment using CPT (all sections), HCPCS II Codes, and, the current ICD Procedural Coding System
	16.07	Append all appropriate modifiers to both CPT and HCPCS II codes
	16.08	Explain Physician Quality Reporting Initiative (PQRI) and its relationship to CPT Category II codes.
	16.09	Demonstrate the ability to accurately code and sequence for current ICD Diagnoses and Procedural Coding System Codes by body systems and supplemental chapters/materials.
	16.10	Identify any discrepancies, incomplete information and/or poor documentation practices in relation to coding while following appropriate departmental policies for correcting errors or improving documentation practices.
17.0	Demonstrate proficiency in ICD coding complexities–The student will be able to:	
	17.01	Apply advanced ICD coding concepts to diagnostic complexities of complex case studies with an articulation of coding rules and sequencing.
	17.02	Understand case-mix analysis, severity of illness systems, and coding quality monitors and reporting.
	17.03	Using a variety of simulated patient records (Emergency Department, Ambulatory Surgery, and Inpatient), interpret data and assign diagnostic codes.
	17.04	Describe characteristics of prospective payment systems (DRG, APR-DRG, APC and RUGS groupers) for various types of healthcare settings.
	17.05	Review the format and conventions of ICD Diagnoses and Procedural Coding System coding systems.
	17.06	Identify the areas of similarities and differences to various classification systems (For example, ICD, DSM-IV, ICD-O).
	17.07	Use and maintain application processes to support other clinical classification systems (DSM IV, ICD-O).
	17.08	Explain how the Systematized Nomenclature of Medicine clinical terminology is utilized in the development of an electronic health record system.
18.0	Explain the significance of health information services to the Medical Coder/Biller–The student will be able to:	
	18.01	Describe origin, history and definition of all medical record types.
	18.02	Describe the functions of the medical record department, i.e., data collecting, filing, retrieving, coding, indexing, and workflow in all record types.
	18.03	Explain the classification and functions of health information management personnel and chain of command.
	18.04	State reasons medical records are important in the health care delivery system.

18.05	Explain different filing systems used in health care institutions.
18.06	Describe the development of the medical record to include all record types
18.07	Explain the importance of the medical record in relation to state and federal agencies, accrediting and licensing agencies.
18.08	Demonstrate the use of a master patient index (MPI) system.
Course Number: HIM HIM0093 Occupational Completion Point: B Medical Coder/Biller III – 320 Hours – SOC Code 29-2071	
19.0	Demonstrate ethical and legal principles with regard to the use of medical records–The student will be able to:
19.01	Explain the importance of maintaining ethical and legal standards in compiling and using medical records.
19.02	Discuss the Code of Ethics of the American Health Information Management Association.
19.03	Explain the scope of practice of the Medical Coder/Biller.
19.04	Demonstrate ethical coding practices as outlined by AHIMA.
19.05	Identify HIPAA compliance guidelines and regulations for electronic health information.
20.0	Demonstrate understanding of medical billing–The student will be able to:
20.01	Demonstrate an understanding of the revenue cycle management processes.
20.02	Complete CMS (Centers of Medicare/Medicaid Services) 1500 or comparable claim form.
20.03	Compare and contrast various reimbursement entities.
20.04	Identify sources of payment, including patient and third parties.
20.05	Use medical billing software.
20.06	Perform electronic claims billing and submission.
20.07	Interpret explanation of benefits (EOBs) and explanation of Medicare benefits (EOMBs).
20.08	Analyze claims rejection, correct and resubmit for payment.
20.09	Explain the relationship of current payment methodologies and systems including but not limited to Medicare Severity Diagnosis Related Groups (MS-DRGs) Ambulatory Payment Classifications (APCs), Resource Based Relative Value Scale (RBRVS), and Ambulatory Surgery Center (ASC) Payment System.
20.10	Identify the various external regulating agencies and their impact on the coding systems.

20.11	Discuss chargemaster and superbill maintenance.
20.12	Understand compliance strategies and reporting as well as regulatory guidelines such as the National Correct Coding Initiative (NCCI), Local Coverage Determination (LCD), National Coverage Determination (NCD) and the Outpatient Code Editor (OCE).

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Students should be encouraged to become members and participate in the activities of the professional organizations: American Health Information Management Association and/or American Academy of Procedural Coders.

About AHIMA Credentials:
Completers of the Medical Biller Coder program may take the Certified Coding Associate (CCA) credential exam as the first step in their coding career. The CCA is an entry-level credential that distinguishes new coders in the job market. Individuals with a CCA credential:

- Exhibit a level of commitment, competency, and professional capability usually absent in a newcomer to the field
- Demonstrate a commitment to the coding profession
- Distinguish themselves from non-credentialed coders and those holding credentials from other organizations less demanding of the higher level of expertise required to earn AHIMA certification.

The CCA should be viewed as the starting point for an individual entering a career as a coder. The AHIMA CCS and CCS-P exams demonstrate mastery level skills in coding. Most individuals challenge the CCS or CCS-P exams after two or more years of work experience in coding.
American Health Information Management Association
919 North Michigan Ave. Suite 2150
Chicago, IL. 60611-5519
312/233-1100

The American Academy of Professional Coders (AAPC) sponsors a certification exam for coders with expertise in physician-based settings which leads to the title of Certified Professional Coder (CPC) or Certified Professional Coder Hospital (CPC-H).

American Academy of Professional Coders
309 West 700 South
Salt Lake City, UT. 84101
1-800-626-2633

or

The National Healthcare Association also offers a national certification examination for a Certified Billing and Coding Specialist (CBCS).

National Healthcareer Association
7500 West 160th Street
Stilwell, Kansas 66085
800-499-9092

Outcomes 01- 12 are referred to as the Health Information Technology core and do not have to be completed if the students has previously completed the core in another program at any level. The Core should be taken first or concurrently with the first course in the program.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Nursing Assistant (Long-Term Care)**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170602
CIP Number	0351390200
Grade Level	30, 31
Standard Length	120 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1014 Nursing Assistants
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as nursing assistants, nursing aides, and orderlies, nurse aides in nursing homes or SOC Code 31-1014 Nursing Assistants
The content includes, but is not limited to, interpersonal skills, medical terminology, legal and ethical responsibilities, safe and efficient work, gerontology, nutrition, pet-facilitated therapy, health and safety including Cardio-pulmonary Resuscitation (CPR) – heart saver level, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 1 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	PRN0090	Nurse Aide and Orderly	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	120 hours	31-1014

* The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and have follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., Clinical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, and may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate mathematics and science knowledge and skills
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively
03.0 Demonstrate legal and ethical responsibilities specific to nurse assisting
04.0 Use information technology tools
05.0 Recognize and practice safety and security procedures
06.0 Demonstrate employability skills
07.0 Provide emergency care
08.0 Describe the anatomy and physiology of the human body
09.0 Perform physical comfort and safety functions specific to nurse assisting
10.0 Provide personal patient care
11.0 Perform patient care procedures.
12.0 Apply principles of nutrition.
13.0 Provide care for geriatric patients
14.0 Apply the principles of infection control specific to nursing assisting
15.0 Provide biological, psychological, and social support.
16.0 Perform organizational skills following the patient plan of care.
17.0 Assist with restorative (rehabilitative) activities.
18.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS
19.0 Perform skills related to the hospital setting (optional)

Florida Department of Education
Student Performance Standards

Program Title: **Nursing Assistant (Long Term Care)**
PSAV Number: **H170602**

Course Number: PRN0090 **Occupational Completion Point: A** **Nursing Aides, Orderlies and Attendants –120 hours – SOC Code 31-1014**	
01.0	Demonstrate mathematics and science knowledge and skills.--The students will be able to:
01.01	Draw, read, and report on graphs, charts and tables.
01.02	Measure time, temperature, distance, capacity, and mass/weight.
01.03	Make, use and convert using both traditional and metric units.
01.04	Make estimations and approximations and judge the reasonableness of the result.
01.05	Convert from regular to 24 hour time.
01.06	Demonstrate ability to evaluate and draw conclusions.
01.07	Organize and communicate the results obtained by observation and experimentation.
01.08	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
01.09	Calculate ratios.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively --The student will be able to:
02.01	Distinguish between factual reports and personal opinion.
02.02	Identify barriers to communication.
02.03	Use basic medical terminology and approved abbreviations.
02.04	Demonstrate effective interpersonal relationships.
02.05	Receive and give oral reports of a patient's status.
02.06	Report and record objective, pertinent observations, in written or oral form, observing legal guidelines.

	02.07	Maintain current documentation.
	02.08	Obtain specified data from patient and family.
	02.09	Utilize verbal and written information to assist with the patient's plan of care.
	02.10	Demonstrate use of the communication system.
	02.11	Adapt communication skills to varied levels of understanding and cultural orientation.
	02.12	Read and discuss technical material.
03.0	Demonstrate legal and ethical responsibilities specific to nurse assisting–The student will be able to:	
	03.01	Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.
	03.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)
	03.03	Follow policies and procedures affecting the health, safety, and well-being of patients.
	03.04	Recognize and report signs of substance abuse.
	03.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.
	03.06	Follow legal guidelines in documentation.
	03.07	Demonstrate methods regarding risk management including prevention and quality of care.
	03.08	Exhibit behavior supporting and promoting patients’ and/or residents' rights.
	03.09	Recognize that a C.N.A. must self-report any crimes they’ve been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).
	03.10	Discuss Florida certified nursing assistant rules including role limitations.
	03.11	Recognize potential for and prevention of medical errors.
	03.12	Discuss proper procedures to follow regarding medical errors.
04.0	Use information technology tools.--The students will be able to:	
	04.01	Employ computer operations applications to access, create, manage, integrate, and store information.
05.0	Recognize and practice safety and security procedures.--The students will be able to:	
	05.01	Recognize safe and unsafe working conditions and report safety hazards.

	05.02	Demonstrate the safe use of medical equipment.
	05.03	Explain and apply the theory of root- cause analysis.
	05.04	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	05.05	Identify and practice security procedures for medical supplies and equipment.
	05.06	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations (including standard precautions).
	05.07	Recognize Materials Data Safety Sheets (MSDS) and comply with safety signs, symbols and labels.
	05.08	Demonstrate proper body mechanics and ergonomics.
	05.09	Demonstrate the procedure for properly identifying patients.
	05.10	Demonstrate procedures for the safe transport and transfer of patients.
	05.11	Describe fire, safety, disaster and evacuations procedures.
	05.12	Discuss The Joint Commission patient safety goals (www.jointcommission.org).
06.0	Demonstrate employability skills- The students will be able to:	
	06.01	Conduct a job search and secure information about a job.
	06.02	Identify documents that may be required when applying for a job.
	06.03	Complete a job application.
	06.04	Demonstrate competence in job-interview techniques.
	06.05	Identify or demonstrate appropriate responses to criticism from employer, supervisor, or other persons.
	06.06	Demonstrate knowledge of how to make job changes appropriately.
	06.07	Demonstrate acceptable employee health habits.
07.0	Provide emergency care.-- The student will be able to:	
	07.01	Obtain and maintain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid for infant, child and adult.
	07.02	Identify emergency evacuation procedures.
08.0	Describe the anatomy and physiology of the human body.--The student will be able to:	

	08.01 Describe the basic structure and function of body systems.
	08.02 Describe the relationships of body systems in providing patient care.
	08.03 Recognize abnormal signs and symptoms of common diseases and condition.
09.0	Perform physical comfort and safety functions specific to nurse assisting–The student will be able to:
	09.01 Maintain patient units and equipment.
	09.02 Maintain service areas on the units including supplies and equipment.
	09.03 Observe, report, and record changes in the patient's behavior daily, including mental awareness.
	09.04 Adjust bed and side-rails.
	09.05 Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.
	09.06 Turn and position patient.
	09.07 Demonstrate the proper use of a gait belt in both transfer and ambulation.
	09.08 Transfer patient to stretcher.
	09.09 Apply protective devices as directed (e.g., vest and belt).
	09.10 Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).
	09.11 Assist patient to dangle.
	09.12 Assist patient in ambulation, including the use of crutch, cane, or walker.
	09.13 Assist patient in using wheelchair.
	09.14 Assist patient with care and use of prosthetic/orthotic devices.
	09.15 Describe emergency procedures utilized in the clinical area(s).
	09.16 Implement appropriate regulatory and accrediting agency patient safety guidelines.
10.0	Provide personal patient care--The student will be able to:
	10.01 Give bed bath; observe and report changes in patient including skin and level of consciousness.
	10.02 Administer back rub.

10.03	Assist with shower or tub bath, including the use of specialty tubs.
10.04	Assist patient with sink, tub, shower, or bed shampoo.
10.05	Demonstrate the use of a safety and/or electric razor to shave the patient.
10.06	Groom patient, including hair, skin, foot, hand and nail care.
10.07	Assist with and/or administer oral hygiene including denture care.
10.08	Assist patient with toileting using various types of restorative and rehabilitative equipment.
10.09	Assist patient to dress.
10.10	Assist patient with meals.
10.11	Assist with bowel and bladder training.
10.12	Assist and/ or provide perineal care.
10.13	Empty, measure and record urinary output and/or drainage.
10.14	Assist patient with both donning and doffing prosthesis and brace.
10.15	Demonstrate application and use of a leg bag, leg strap and dignity bag.
10.16	Monitor and assist with the drainage of urostomy bags and colostomy bags.
11.0	Perform patient care procedures–The student will be able to:
11.01	Demonstrate ability to accurately measure, record and report vital signs.
11.02	Assist with the admission of a patient and/or resident.
11.03	Assist with transfer of patient.
11.04	Assist with discharge of patient.
11.05	Make unoccupied/occupied bed.
11.06	Measure and record patient's height and weight.
11.07	Assist patient in passive range-of-motion exercises.
11.08	Apply anti-embolic hose and sequential compression devices.

	11.09 Collect, strain, and/or test routine urine specimen.
	11.10 Collect timed urine specimen.
	11.11 Collect clean-catch (midstream-voided) urine specimen.
	11.12 Record fluid intake and output (I&O).
	11.13 Observe, record, and report patient's emesis.
	11.14 Monitor and provide with care of urinary catheters and drainage systems for both males and females.
	11.15 Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.
	11.16 Collect stool specimen.
	11.17 Perform postmortem care.
	11.18 Maintain patient-belongings list.
	11.19 Assist the nurse with care of the patient with complex medical needs.
	11.20 Assist with the collection of a sputum specimen.
12.0	Apply principles of nutrition–The student will be able to:
	12.01 Identify nutrients and food groups.
	12.02 Explain regional, cultural, and religious food references.
	12.03 Describe special diets.
	12.04 Prepare a basic food plan.
	12.05 Check patient's diet tray for accuracy.
	12.06 Demonstrate knowledge of the need for thickened liquids and fluid consistency.
	12.07 Identify methods of maintaining fluid balance including forcing and restricting fluids..
	12.08 Monitor and document Nutritional Intake.
13.0	Provide care for geriatric patients–The student will be able to:
	13.01 Identify methods and procedures to prevent pressure ulcers.

	13.02	Identify methods to prevent falls in the elderly.
	13.03	Identify safety principles as related to the elderly.
	13.04	Describe general characteristics, particular needs, and problems of the elderly.
	13.05	Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	13.06	Distinguish between fact and fallacy about the aging process.
	13.07	Identify the need for community resources and services available to the elderly and their family.
	13.08	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	13.09	Provide and involve patients in diversional activities.
	13.10	Identify common alterations in elderly patient behavior.
	13.11	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	13.12	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	13.13	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	13.14	Report concerns to the nurse related to drug use and abuse in the elderly patient.
	13.15	Identify components of the grief process.
	13.16	Demonstrate an understanding of end of life care, hospice and palliative care.
14.0	Apply the principles of infection control specific to nursing assisting–The student will be able to:	
	14.01	Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.
	14.02	Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.
	14.03	Follow isolation procedure with food tray, garments, and other materials.
	14.04	Collect specimen from patient in isolation.
15.0	Provide biological, psychological, and social support–The student will be able to:	
	15.01	Discuss family roles and their significance to health.
	15.02	Respond to patient and family emotional needs.

16.0	Perform supervised organizational functions, following the patient plan of care–The student will be able to:
16.01	Organize patient-care assignments.
16.02	Complete assignments accurately and in a timely manner.
17.0	Assist with restorative (rehabilitative) activities–The student will be able to:
17.01	List the purposes of restorative (rehabilitation) program.
17.02	Assist patient with specified restorative (rehabilitation) needs.
17.03	Assist patients/residents to reach the optimum level of independence.
18.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS.--The student will be able to:
18.01	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens.
18.02	Identify community resources and services available to individuals with diseases caused by blood borne pathogens.
18.03	Identify "at risk" behaviors that promote the spread of aids and the public education needed to combat the spread of diseases caused by blood borne pathogens.
18.04	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following center for disease control (CDC) guidelines.
18.05	Demonstrate knowledge of the legal aspects of aids, including testing.
19.0	Perform skills related to the hospital setting (optional) –The student will be able to:
19.01	Care for hospital equipment and supplies.
19.02	Transfer patient to stretcher.
19.03	Assist patient to apply binders.
19.04	Care for patient in skin and skeletal traction.
19.05	Assist with pre-operative and post-operative patient care.
19.06	Reinforce dressings under the supervision of the RN/LPN.
19.07	Obtain and record an apical pulse.
19.08	Obtain and record an apical-radial pulse.
19.09	Obtain and record pedal pulse.

19.10 Provide cast care and/or pin care.
19.11 Provide care for eye glasses, artificial eyes, and contact lens.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

The length of this program is 120 hours. Completion of this program should enable the postsecondary student to be given advanced standing in the Patient Care Technician program but will require additional evaluation and competencies to enter at the level of OCP A.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Home Health Aide**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170604
CIP Number	0351260200
Grade Level	30.31
Standard Length	165 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1011 Home Health Aides 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as a home attendant, or home health aide (SOC Code 31-1011) or to provide supplemental training for persons previously or currently employed in these occupations.

The content includes, but is not limited to, instruction in those supportive services that are required to provide and maintain bodily and emotional comfort and to assist the patient toward independent living in a safe environment, as stated in Rules of the Department of Health - Minimum Standards for Home Health Agencies. Additional content areas to be included are: legal and ethical responsibilities; communication skills; basic human needs; a safe, clean, and healthy home environment; the developmental process; nutritional needs; emergency care; personal care; special care and rehabilitation needs of the client; household management; record-keeping; pet facilitated therapy; and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	90 hours	31-9099
B	HCP0330	Home Health Aide		75 hours	31-1011

Regulated Programs

Basic infection control, first aid, cardio- pulmonary resuscitation (CPR)--heart saver level, vital signs, home-care skills and client care skills are integral parts of this program. Clinical experiences, where the student may practice, demonstrate and perform the procedures associated with bedside client care, are an appropriate part of this program.

Please refer to 42CFR§484.36 for the clinical requirements for the Home Health Aide program.

Section 59A-8.0095Home Health Aide, Administrative Rules, Department of Health and Rehabilitative Services contain much valuable information for program planning. These rules require that if the Home Health Aide receives training through a vocational school where professional standards have been established in accordance with the State Board of Education, a certificate of successful completion shall be on file with the employer.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use verbal and written communications specific to Home Health Aide.
13.0 Demonstrate legal and ethical responsibilities specific to Home Health Aide.
14.0 Perform physical comfort and safety functions specific to Home Health Aide.
15.0 Provide personal patient care.
16.0 Perform patient care procedures.
17.0 Apply principles of nutrition.
18.0 Provide care for geriatric patients.
19.0 Apply the principles of infection control specific to Home Health Aide.
20.0 Provide bio-psycho-social support.
21.0 Perform supervised organizational functions, following the patient plan of care.
22.0 Assist with rehabilitative activities.
23.0 Perform home health-care services.

Florida Department of Education
Student Performance Standards

Program Title: **Home Health Aide**
PSAV Number: **H170404**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HCP0330
Occupational Completion Point: B
Home Health Aide – 75 Hours – SOC Code 31-1011

12.0	Use verbal and written communications specific to home health aide–The student will be able to:
12.01	Obtain specified data from patient and family.
12.02	Utilize verbal and written information to assist with the patient's plan of care.
13.0	Demonstrate legal and ethical responsibilities specific to home health aide–The student will be able to:
13.01	Demonstrate legal and ethical behavior within the role and scope of home health aide responsibilities.
13.02	Follow policies and procedures concerning care as directed by the employer affecting the health, safety, and well-being of patients in the home setting.
13.03	Recognize and report signs of substance abuse.
13.04	Follow legal guidelines in charting.
13.05	Exhibit behavior supporting and promoting residents' rights.
13.06	Recognizes and follows limits if job restrictions.
14.0	Perform physical comfort and safety functions specific to home health aide–The student will be able to:

	14.01	Maintain a clean and safe home environment for the patient.
	14.02	Adjust bed and side-rails.
	14.03	Transfer patient with mechanical lifters using proper body mechanics and patient safety measures.
	14.04	Turn and position patient.
	14.05	Apply protective devices as directed (e.g. vest or belt).
	14.06	Apply comfort devices as directed (e.g. foot-board, over-bed cradle, alternating pressure mattress).
	14.07	Assist patient to dangle.
	14.08	Assist patient in ambulation, including the use of crutch, cane, or walker.
	14.09	Assist patient in using wheelchair.
	14.10	Assist patient with care and use of prosthetic/orthotic devices.
	14.11	Administer back rub.
	14.12	Identify emergency evacuation procedures with adaptations to the home setting.
	14.13	Implement appropriate joint commission patient safety goals.
15.0	Provide personal patient care–The student will be able to:	
	15.01	Give bed bath; observe and report changes in patient.
	15.02	Practice procedures for safety in the bathroom including the use of adaptive shower equipments such as shower chairs, long handled bath sponge, grab bars, extended shower hose, rubber mat in tub or shower, and rubber based rug outside the shower
	15.03	Assist with shower or tub bath, including use of specialty tubs.
	15.04	Assist patient with sink, tub, shower, or bed shampoo.
	15.05	Shave patient.
	15.06	Groom patient, including hair, skin, foot, and nail care.
	15.07	Assist with and/or administer oral hygiene.
	15.08	Assist patient with toileting.
	15.09	Assist patient to dress.

	15.10 Assist patient with meals.
16.0	Perform patient care procedures–The student will be able to:
	16.01 Make unoccupied/occupied bed.
	16.02 Assist patient in passive range-of-motion exercises.
	16.03 Apply anti-embolic hose and sequential compression devices.
	16.04 Collect, strain, and/or test routine urine specimen.
	16.05 Monitor catheter drainage system.
	16.06 Monitor fluid intake and output (I&O), including forcing and restricting fluids.
	16.07 Observe, record, and report patient's emesis.
	16.08 Assist patient with moist and dry heat applications to include the sitz bath.
	16.09 Assist with ostomy care.
	16.10 Collect stool specimen.
	16.11 Care for patients receiving oxygen therapy.
17.0	Apply principles of nutrition–The student will be able to:
	17.01 Identify nutrients and food groups.
	17.02 Explain regional, cultural, and religious food preferences.
	17.03 Describe special diets.
	17.04 List factors that must be considered when purchasing food.
	17.05 Prepare a basic food plan.
	17.06 List factors that must be considered when storing food.
	17.07 Identify methods of maintaining fluid balance.
	17.08 Identify methods of food preparation.
	17.09 Discuss preparation and serving of trays in the home.

18.0	Provide care for geriatric patients–The student will be able to:
	18.01 Identify safety principles, as related to the elderly.
	18.02 Describe general characteristics, particular needs, and problems of the elderly.
	18.03 Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	18.04 Distinguish between fact and fallacy about the aging process.
	18.05 Identify community resources and services available to the elderly.
	18.06 Apply Reality Orientation Techniques and Validation Therapy.
	18.07 Provide and involve patients in diversional activities.
	18.08 Identify common alterations in elderly patient behavior or health status and follow up within the home health aide scope of performance.
	18.09 Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions).
19.0	Apply the principles of infection control specific to home health aide–The student will be able to:
	19.01 Provide care for patients with infectious diseases in the home.
	19.02 Follow isolation procedures with food tray, garments, and other materials in the home.
	19.03 Utilize standard precautions in all home care.
20.0	Provide bio-psycho-social support–The student will be able to:
	20.01 Discuss family roles and their significance to health.
	20.02 Respond to patient and family emotional needs.
21.0	Perform supervised management functions, following the patient plan of care–The student will be able to:
	21.01 Organize patient-care assignments.
	21.02 Complete assignments accurately and in a timely manner.
22.0	Assist with rehabilitative activities–The student will be able to:
	22.01 List the purposes of restorative (rehabilitation) programs.
	22.02 Assist patient with specified restorative (rehabilitation) needs.

	22.03 Assist patients/residents to reach the optimum level of independence.
23.0	Perform home health-care services–The student will be able to:
	23.01 Follow an established work plan with the patient and family.
	23.02 Perform patient-related cleaning tasks and laundry.
	23.03 Identify methods for medication storage.
	23.04 Assist patient with taking self-administered prescribed medication in the home, and identify possible side effects and emergency procedures for adverse reactions in accordance with F.A.C. 59A-8.0095.
	23.05 Demonstrate how to utilize equipment and supplies in the home.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Practical Nursing**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170607
CIP Number	0351390101
Grade Level	30, 31
Standard Length	1350 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2061 Licensed Practical and Licensed Vocational Nurses 31-1014 Nursing Assistants
Basic Skills Level	Mathematics: 11 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as licensed practical nurses (SOC 29-2061). The program must be approved by the Florida State Board of Nursing in order for graduates to may apply to take the examination to practice as a Licensed Practical Nurse.

The content includes, but is not limited to, theoretical instruction and clinical experience in medical, surgical, obstetric, pediatric, and geriatric nursing; theoretical instruction and clinical experience in acute, care, long term care and community settings; theoretical instruction and clinical application of vocational role and function; personal, family and community health concepts; nutrition; human growth and development over the life span; body structure and function; interpersonal relationship skills, mental health concepts; pharmacology and administration of medications; legal aspects of practice; and current issues in nursing.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3) (b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	PRN0098	Practical Nursing Foundations 1	REG NURSE 7 G LPN 7 G * PRAC NURSE @7 *(Must be a Registered Nurse)	300 hours	31-1014
B	PRN0099	Practical Nursing Foundation 2	REG NURSE 7 G PRAC NURSE @7 *(Must be a Registered Nurse)	300 hours	29-2061
	PRN0290	Medical Surgical Nursing 1		300 hours	29-2061
	PRN0291	Medical Surgical Nursing 2		300 hours	29-2061
	PRN0690	Comprehensive Nursing and Transitional Skills		150 hours	29-2061

**** The LPN 7 G district issued certification is a practical nurse. This certification can only be utilized in the PRN0098 course when the program is an approved nursing assistant program with the Florida Board of Nursing to teach concepts, skills and experiences solely at the Certified Nursing Assistant level and scope. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Regulated Programs

Please refer to Florida Statute 464.019 (1) (b) for faculty credential requirements to teach this program.

Students are eligible to apply to take the national licensing examination after satisfactory completion of an approved program. Licensure Examination for Practical Nurses, CAT NCLEX-PN is a computer-administered examination that the nursing graduate must take and pass in order to practice as a Licensed Practical Nurse.

Program must comply with the State Board of Nursing rules, including faculty qualifications. For questions regarding this process, please contact: Board of Nursing, 4052 Bald Cypress Way, Tallahassee, FL 32399-3752.

An approved licensed practical nurse supervisory education course can only be taken following completion of this program, and after licensure. The Graduate must have 6 months clinical experience before supervising as well as meeting all other criteria listed in 64B9-16.002.

A Licensed Practical Nurse working in a nursing home shall qualify to supervise by meeting all of the requirements in 64B9-16.002 (FS). The Supervisory course applicant must have no less than six months clinical nursing experience as an LPN. The supervisory course must be approved by the board of nursing, and must be a minimum of 30 hours in length.

Clinical instruction of nursing students will meet the requirements of Florida Statute 464.019. Clinical experience must make up or least 50% of the total program. Simulated practice and clinical experiences are included as an integral part of this program. Clinical Simulation may be used for no more than 50% of the total clinical experience.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Recognize and practice safety, security and emergency procedures.
03.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
04.0 Perform patient and personal care as it pertains to the practical nurse.
05.0 Provide patient-centered care for the geriatric population.
06.0 Assist with restorative (rehabilitative) activities.
07.0 Demonstrate organizational functions, following the patient plan of care.
08.0 Demonstrate computer literacy as related to nursing functions.
09.0 Use appropriate verbal and written communications in the performance of nursing functions.
10.0 Demonstrate legal and ethical responsibilities specific to the nursing profession.
11.0 Apply the principles of infection control, utilizing nursing principles.
12.0 Perform aseptic techniques.
13.0 Describe the structure and function of the human body.
14.0 Apply principles of nutrition as it relates to Practical Nursing Scope of Practice.
15.0 Describe human growth and development across the lifespan.
16.0 Demonstrate the performance of nursing procedures.
17.0 Demonstrate how to administer medication.
18.0 Demonstrate how to provide bio-psycho-social support.
19.0 Demonstrate healthy lifestyle responsibility specific to personal health maintenance.
20.0 Implement education and resources for family wellness.
21.0 Participate in Community Health Awareness Forums.
22.0 Demonstrate how to care for the surgical patient with a Cardiovascular, Respiratory, Lymphatic, Musculoskeletal, Endocrine or Integumentary disease/disorder.
23.0 Demonstrate how to care for pre-operative and post-operative patients, utilizing nursing principles.
24.0 Demonstrate how to care for the surgical patient with a Gastrointestinal, Neurological, Urinary, Reproductive or Oncologic disease/disorder.
25.0 Demonstrate how to care for maternal/newborn patients, utilizing nursing principles.
26.0 Demonstrate knowledge of SIDS/ SUIDS as it relates to the practical nursing role.
27.0 Demonstrate how to care for pediatric patients, utilizing nursing principles.
28.0 Develop transitional skills.
29.0 Demonstrate employability skills specific to practical nursing.

Please Note: The following outcomes can only be taken by Practical nurses who have graduated from their practical nursing program. The LPN/IV education must be sponsored by a provider of continuing education courses approved by the Board pursuant to Rule 64B9. To be qualified to teach this module, the instructor must be a currently Florida licensed Registered nurse with teaching experience and nursing experience which includes IV therapy. The provider will be responsible for issuing a certificate verifying the requisite number of hours and course content.

In accordance with Rule 64B9 12.005, the module cannot be less than 30 hours post-graduate level. These outcomes must be followed by supervised clinical practice as needed to demonstrate clinical competence. Verification of competence shall be the responsibility of each employing institution. Such verification shall be given through a signed statement of a Florida licensed registered nurse.

LPN/IV

01.0 Explain the legal aspects of IV administration by practical nurses to include the policies and procedures of the institution and appropriate documentation.
02.0 Demonstrate knowledge of the peripheral veins used for venipuncture.
03.0 Perform a venipuncture.
04.0 Discuss the effect of IV therapy on the body.
05.0 Recognize and respond to adverse reactions to IV therapy.
06.0 Recognize and use various types of IV equipment.
07.0 Administer drugs intravenously.
08.0 Care for patients receiving IV drug therapy, blood and blood components, and/or parenteral nutrition.
09.0 Describe and utilize the principles of infection control in IV therapy.
10.0 Manage special IV therapy procedures.
11.0 Recognize terminology pertinent to IV therapy.
12.0 Care for the patient receiving IV therapy via central lines.

Florida Department of Education
Student Performance Standards

Program Title: **Practical Nursing**
PSAV Number: **H170607**

PSAV Course Number: PRN0098 **Occupational Completion Point: A** **Practical Nursing Foundations 1 – 300 Hours – SOC Code 31-1014**	
01.0	Demonstrate knowledge of the healthcare delivery system and health occupations–The student will be able to:
01.01	Identify the basic components of the healthcare delivery system including public, private, government and non-profit.
01.02	Identify common methods of payment for healthcare services.
01.03	Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.
01.04	Describe the composition and functions of a healthcare team.
01.05	Identify the general roles and responsibilities of the individual members of the healthcare team.
01.06	Identify the roles and responsibilities of the consumer within the healthcare delivery system.
01.07	Identify characteristics of effective teams.
01.08	Recognize methods for building positive team relationships.
01.09	Analyze attributes and attitudes of an effective leader.
01.10	Recognize factors and situations that may lead to conflict.
01.11	Demonstrate effective techniques for managing team conflict.
01.12	Describe factors that influence the current delivery system of healthcare.
01.13	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.
02.0	Recognize and practice safety, security and emergency procedures–The student will be able to:
02.01	Recognize safe and unsafe working conditions and report safety hazards.
02.02	Demonstrate the safe use of medical equipment.

	02.03	Explain and apply the theory of root- cause analysis.
	02.04	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	02.05	Identify and practice security procedures for medical supplies and equipment.
	02.06	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.
	02.07	Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
	02.08	Demonstrate proper body mechanics and ergonomics.
	02.09	Demonstrate the procedure for properly identifying patients.
	02.10	Demonstrate procedures for the safe transport and transfer of patients.
	02.11	Describe fire, safety, disaster and evacuations procedures.
	02.12	Discuss The Joint commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.
	02.13	Describe legal parameters relating to the administration of emergency care.
	02.14	Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
03.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS–The student will be able to:	
	03.01	Recognize emerging diseases and disorders.
	03.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	03.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	03.04	Identify “at risk” behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	03.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	03.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.
04.0	Perform patient and personal care as it pertains to the practical nurse.- The student will be able to:	
	04.01	Demonstrate ability to accurately measure, record and report vital signs.
	04.02	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.

	04.03	Provide primary nursing care
	04.04	Perform patient hygiene care
	04.05	Assist patient with activities of Daily Living (ADL) including: 04.05.01 Dressing 04.05.02 Meals 04.05.03 Bowel and bladder training 04.05.04 Perineal care 04.05.05 Make unoccupied/occupied bed 04.05.06 Passive range of motion exercises
	04.06	Assist patient with both donning and doffing prosthesis and brace.
	04.07	Provide care for eye glasses, prosthetic eyes, and contact lens.
05.0	Provide patient-centered care for the geriatric population.- the student will be able to:	
	05.01	Incorporate professional attitudes, values, and expectations about physical and mental aging in the provision of patient-centered care for older adults and their families.
	05.02	Identify barriers for older adults in receiving, understanding, and giving of information.
	05.03	Use valid and reliable assessment made by registered nurse to guide nursing practice for older adults.
	05.04	Recognize living environments as it relates to functional, physical, cognitive, psychological, and social needs of older adults.
	05.05	Assist older adults and their support network to achieve personal goals, based on the analysis of the living environment and availability of community resources made by registered nurse.
	05.06	Identify actual or potential mistreatment (physical, mental or financial abuse, and/or self-neglect) in older adults and refer appropriately.
	05.07	Implement strategies and use online guidelines to prevent and/or identify and manage geriatric syndromes.
	05.08	Recognize and respect the variations of care, the increased complexity, and the increased use of healthcare resources inherent in caring for older adults.
	05.09	Recognize the complex interaction of acute and chronic co-morbid physical and mental conditions and associated treatments common to older adults.
	05.10	Discuss models of care that promote safe, quality physical and mental health care for older adults such as PACE, NICHE, Guided Care, Culture Change, and Transitional Care Models.
	05.11	Facilitate ethical, non-coercive decision making by older adults and/or families/caregivers for maintaining everyday living, receiving treatment, initiating advance directives, and implementing end-of-life care.
	05.12	Assist registered nurse to promote adherence to the evidence-based practice of providing restraint-free care (both physical and chemical restraints).
	05.13	Demonstrate leadership and communication techniques that foster discussion and reflection on the extent to which diversity (among nurses, nurse assistive personnel, therapists, physicians, and patients) has the potential to impact the care of older adults.

	05.14	Facilitate safe and effective transitions across levels of care, including acute, community-based, and long-term care (e.g., home, assisted living, hospice, nursing homes) for older adults and their families.
	05.15	Provide patient-centered care with consideration for mental and physical health and well-being of informal and formal caregivers of older adults. .
	05.16	Advocate for timely and appropriate palliative and hospice care for older adults with physical and cognitive impairments.
	05.17	Implement and monitor strategies to prevent risk and promote quality and safety (e.g., falls, medication mismanagement, pressure ulcers) in the nursing care of older adults with physical and cognitive needs.
	05.18	Utilize resources/programs to promote functional, physical, and mental wellness in older adults.
	05.19	Identify relevant theories and concepts related to the delivery of patient-centered care for older adults.
	05.20	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	05.21	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	05.22	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	05.23	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	05.24	Report concerns to the nurse related to drug use and abuse in the elderly patient.
	05.25	Identify components of the grief process as it relates the geriatric patient.
06.0	Assist with restorative (rehabilitative) activities. –The student will be able to:	
	06.01	List the purposes of restorative (rehabilitation) program.
	06.02	Assist patient with specified restorative (rehabilitation) needs.
	06.03	Assist patients/residents to reach the optimum level of independence.
07.0	Demonstrate organizational functions, following the patient plan of care. –The student will be able to:	
	07.01	Organize patient-care assignments.
	07.02	Complete assignments accurately and in a timely manner.
08.0	Demonstrate computer literacy as related to nursing functions. –The student will be able to:	
	08.01	Demonstrate effective use of technology, including use of electronic medical records and email relevant to job requirements for a Licensed Practical Nurse.
	08.02	Identify computer skills utilized for each clinical rotation and apply, as appropriate.

	08.03	Identify methods of communication to access and distribute data such as fax, e-mail and internet.
09.0	Use appropriate verbal and written communications in the performance of nursing functions. –The student will be able to:	
	09.01	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
	09.02	Respond to verbal and non-verbal cues.
	09.03	Use appropriate medical terminology and abbreviations.
	09.04	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
	09.05	Receive and give oral report of patient's status.
	09.06	Report and record objective and subjective pertinent observations.
	09.07	Maintain current documentation.
	09.08	Document changes in patient behavior and mental awareness.
	09.09	Obtain specified data from patient and family.
	09.10	Define and explain the steps in the nursing process and the role of the licensed practical nurse in that process.
	09.11	Utilize nursing principles to assist with the patient's plan of care.
10.0	Demonstrate legal and ethical responsibilities specific to the nursing profession. –The student will be able to:	
	10.01	Explain the “Patient’s Bill of Rights”.
	10.02	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	10.03	Describe advance directives.
	10.04	Describe informed consent.
	10.05	Recognize and report abuse including domestic violence and neglect.
	10.06	Identify the components of the Nurse Practice Act.
	10.07	Practice within the role and scope of the job description.
	10.08	Discuss medical errors related to the practical nurse.
	10.09	Define legal aspects and code of ethics related to nursing.

	10.10 Describe the practical nurses role in delegation of duties.
	10.11 Follow policies and procedures affecting the health, safety, and well-being of patients.
	10.12 Follow legal guidelines in charting, including use of electronic medical records
11.0	Apply the principles of infection control, utilizing nursing principles. –The student will be able to:
	11.01 Provide care for patients with infectious diseases applying the principles of “Standard Precautions” utilized with all patients as well as special procedures required.
	11.02 Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.
	11.03 Follow isolation procedure with food tray, garments, and other materials.
	11.04 Collect specimen from patient in isolation.
	11.05 Identify common nosocomial infections and their prevention and treatment.
	11.06 Identify emergent communicable diseases and their prevention and treatment.
	11.07 Apply interventions to break each chain of infection.
	11.08 Discuss immunity and the role of immunizations.
	11.09 Discuss nursing responsibilities related to biological exposures.
12.0	Perform aseptic techniques. –The student will be able to:
	12.01 Apply principles of medical and surgical asepsis.
	12.02 Apply and remove sterile gloves and gown.
	12.03 Apply sterile dressing.
	12.04 Open sterile equipment and supplies.
	12.05 Maintain sterile field.
	12.06 Clean and disinfect equipment.
13.0	Describe the structure and function of the human body. –The student will be able to:
	13.01 Describe the relationships of body systems in providing patient care.
	13.02 Describe the structure and function of the respiratory system.

	13.03 Describe the structure and function of the cardio-vascular system including lymph and immune response.
	13.04 Describe the structure and function of the muscular-skeletal system.
	13.05 Describe the structure and function of the nervous, skin, and sensory systems.
	13.06 Describe the structure and function of the reproductive system.
	13.07 Describe the structure and function of the urinary system.
	13.08 Describe the structure and function of the digestive system.
	13.09 Describe the structure and function of the endocrine system.
14.0	Apply principles of nutrition as it relates to Practical Nursing Scope of Practice. –The student will be able to:
	14.01 Explore and utilize the U.S. Department of Agriculture's MyPlate food guide.
	14.02 Explain regional, cultural, and religious food references.
	14.03 Prepare a basic food plan.
	14.04 Demonstrate knowledge of the need for thickened liquids and fluid consistency.
	14.05 Identify methods of maintaining fluid balance including forcing and restricting fluids.
	14.06 Monitor and document Nutritional Intake.
	14.07 Assist patient with and maintain therapeutic diets.
	14.08 Describe the nutrients, their sources and significance in promoting health.
	14.09 List factors which must be considered when purchasing food.
	14.10 List factors which must be considered when storing food safely.
	14.11 Identify methods of safe food preparation.

PSAV Course Number: PRN0099 Occupational Completion Point: B Practical Nursing Foundations 2 – 300 Hours – SOC Code 29-2061	
15.0	Describe human growth and development across the lifespan. –The student will be able to:
	15.01 Describe characteristics of growth and development from conception to birth.

15.02	Describe characteristics of growth and development from birth through preschool.
15.03	Describe characteristics of growth and development from school age through adolescence.
15.04	Describe characteristics of growth and development of the adult through the life span.
15.05	Identify components of the grief process across the lifespan.
16.0	Demonstrate the performance of nursing procedures (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
16.01	Perform data collection.
16.02	Apply hot and cold applications.
16.03	Assist patient with sitz bath.
16.04	Describe and demonstrate how to monitor patient's pre and post special procedures (e.g. I.V.P., myelogram, MRI, CAT scan).
16.05	Apply bandage.
16.06	Perform clean and sterile dressing changing procedures.
16.07	Insert urinary catheter.
16.08	Obtain specimen from patient with indwelling catheter.
16.09	Remove retention catheter.
16.10	Demonstrate how to assist with physical examination.
16.11	Assist patient with diagnostic procedures.
16.12	Irrigate wound.
16.13	Apply pelvic belt for traction.
16.14	Apply cervical collar.
16.15	Apply orthopedic devices including binders, braces and splints.
16.16	Apply anti-embolic hose and sequential compression devices.
16.17	Care for patient in skin, skeletal traction and external fixators.
16.18	Clean tong/pin site.

16.19	Describe and demonstrate how to monitor chest drainage system.
16.20	Perform naso-oral suction.
16.21	Perform tracheostomy care.
16.22	Demonstrate how to instruct patient in breathing exercises.
16.23	Set up vaporizer/humidifier.
16.24	Administer and maintain oxygen.
16.25	Collect timed urine specimen.
16.26	Collect clean-catch (midstream-voided) urine specimen.
16.27	Test urine using point of care testing procedures.
16.28	Irrigate urinary catheter.
16.29	Demonstrate how to maintain continuous urinary bladder irrigation.
16.30	Change ostomy appliance.
16.31	Connect nasogastric tube to suction machine.
16.32	Remove nasogastric tube.
16.33	Administer enteral feeding.
16.34	Give enema.
16.35	Test stool for occult blood.
16.36	Irrigate nasogastric tube.
16.37	Irrigate oral cavity.
16.38	Irrigate colostomy.
16.39	Demonstrate how to maintain enteral feeding tubes.
16.40	Perform neurological checks.
16.41	Logroll patient.

	16.42 Irrigate ear.
	16.43 Irrigate eye.
	16.44 Irrigate vaginal canal.
	16.45 Obtain and test a drop of blood for glucose monitoring.
	16.46 Perform calculation and adjust IV flow rate.
	16.47 Observe intravenous infusion and report signs of adverse reactions.
	16.48 Inspect insertion site, change dressing, and remove IV needle or catheter from peripheral veins.
	16.49 Hang bags or bottles of hydrating fluid.
17.0	Demonstrate how to administer medication (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
	17.01 Identify controlled substances and associated legal and safety issues.
	17.02 Demonstrate accurate dosage calculation.
	17.03 Demonstrate the six rights of administering medication.
	17.04 Demonstrate how to observe and respond to patient's need for medication.
	17.05 Demonstrate how to administer topical medication.
	17.06 Administer inhalants.
	17.07 Administer oral medication.
	17.08 Administer sublingual medication.
	17.09 Administer rectal medication.
	17.10 Administer vaginal medication.
	17.11 Administer eye medications.
	17.12 Administer ear drops.
	17.13 Administer nose drops.
	17.14 Administer intramuscular injection (including Z-tract).

	17.15	Administer intradermal injection.
	17.16	Administer subcutaneous injection.
	17.17	Properly obtain, monitor and document use of controlled substances.
	17.18	Instill bladder medication.
	17.19	Care for equipment and supplies used to administer medications.
	17.20	Assist the patient with self-administration of medications; reinforce teaching by the RN on the patient's medication, their expected effects and potential side effects.
	17.21	Observe and communicate effects of medications to the patient’s assigned nurse.
	17.22	Document administration of medication and patient's response on medical record.
	17.23	Store medications properly according to facility policy and procedures.
	17.24	Demonstrate use of medication resources.
18.0	Demonstrate how to provide bio-psycho-social support (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) --The student will be able to:	
	18.01	Discuss family roles and their significance to health.
	18.02	Respond to emotional needs of patient and family.
	18.03	Demonstrate therapeutic communication.
	18.04	Discuss coping mechanisms as seen in the performance of healthcare.
	18.05	Differentiate between mental health and mental illness.
	18.06	Recognize signs and symptoms of the various mental health disorders.
	18.07	Discuss treatment modalities for the various mental health disorders.
	18.08	Recognize the signs and symptoms for potential suicide and homicidal ideations in the patient and initiate appropriate interventions.
	18.09	Describe treatments and resources for the addicted client.
	18.10	Describe drug seeking behaviors and resources for potential risk of addiction.
	18.11	Identify an individual in crisis and describe appropriate interventions.
	18.12	Describe the common personality traits in mental health disorders including addictive behaviors.

	18.13 Correlate common psychological and developmental theories with both bio-, psycho-social components of health.
19.0	Demonstrate healthy lifestyle responsibility specific to personal health maintenance. –The student will be able to:
	19.01 Identify psychological reactions to illness including defense mechanisms.
	19.02 Identify complementary and alternative health practices.
	19.03 Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.
	19.04 Explain the basic concepts of positive self-image, wellness and stress.
	19.05 Develop a wellness and stress control plan that can be used in personal and professional life.
	19.06 Discuss annual medical screenings
	19.07 Define dental health and self-care practices
	19.08 Provide education in warning signs and risk factors for mental health issues
	19.09 Apply cultural diversity related to spirituality
	19.10 Identify education level
	19.11 Discuss occupation ability
	19.12 Provide resources financial safety and security
20.0	Implement education and resources for family wellness. – The student will be able to:
	20.01 Discuss risk factors in communicable diseases
	20.02 Provide provider community resources for prenatal care
	20.03 Apply knowledge into healthy parenting styles
	20.04 Provide current immunization practices
	20.05 Discuss healthy nutrition options and resources
	20.06 Define abuse and neglect in relationships
	20.07 Apply insight into safe housing environments/communities
	20.08 Discuss school and family collaboration in education

21.0	Participate in Community Health Awareness Forums. – The student will be able to:
	21.01 Perform basic medical screenings such as vital signs, weight, glucose, cholesterol, and body mass index
	21.02 Discuss risk factors, screenings and resources for cancer
	21.03 Identify and provide resources for mental health conditions including suicide and substance abuse
	21.04 Discuss social and financial risk factors related to the aging adult
	21.05 Define safe housing strategies for senior living
	21.06 Discuss collaborative community strategies from healthcare providers, law enforcement agencies, religious affiliates, education systems, and legislative offices.

PSAV Course Number: PRN0290 **Occupational Completion Point: B** **Medical/Surgical Nursing 1 – 300 Hours – SOC Code 29-2061**	
22.0	Demonstrate how to care for the surgical patient with a Cardiovascular, Respiratory, Lymphatic, Musculoskeletal, Endocrine or Integumentary disease/disorder (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
	22.01 Identify signs and symptoms of disease/disorders of the body systems.
	22.02 Identify diagnostic tests used in the treatment of diseases/disorders of the body systems.
	22.03 Identify medications used in the treatment of diseases/disorders of the body systems.
	22.04 Identify nutritional needs of patients with diseases/disorders of the body systems.
	22.05 Identify the symptoms of acute/chronic psychological distress.
	22.06 Care for the patient with a: 22.06.01 Cardiovascular/Circulatory disease/disorder 22.06.02 Respiratory disease/disorder 22.06.03 Lymphatic/Immune disease/disorder 22.06.04 Musculoskeletal disease/disorder 22.06.05 Endocrine disease/disorder 22.06.06 Integumentary/Sensory disease/disorder
23.0	Demonstrate how to care for pre-operative and post-operative patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
	23.01 Assist the RN with pre-operative and post-operative teaching.
	23.02 Perform a surgical prep.

23.03	Prepare patient for operating room.
23.04	Provide post-operative care.
23.05	Reinforce post-operative discharge teaching provided by the RN.

PSAV Course Number: PRN0291 **Occupational Completion Point: B** **Medical/Surgical Nursing 2 – 300 Hours – SOC Code 29-2061**	
24.0	Demonstrate how to care for the surgical patient with a Gastrointestinal, Neurological, Urinary, Reproductive or Oncologic disease/disorder. (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
24.01	Identify signs and symptoms of disease/disorders of the body systems.
24.02	Identify diagnostic tests used in the treatment of diseases/disorders of the body systems.
24.03	Identify medications used in the treatment of diseases/disorders of the body systems.
24.04	Identify nutritional needs of patients with diseases/disorders of the body systems.
24.05	Identify the symptoms of acute/chronic psychological distress.
24.06	Care for the patient with a: 24.06.01 Gastrointestinal disease/disorder 24.06.02 Neurological disease/disorder 24.06.03 Urinary disease/disorder 24.06.04 Reproductive disease/disorder 24.06.05 Oncologic disease/disorder

PSAV Course Number: PRN0690 **Occupational Completion Point: B** **Comprehensive Nursing – 150 Hours – SOC Code 29-2061**	
25.0	Demonstrate how to care for maternal/newborn patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
25.01	Describe prenatal care and normal development of the fetus.
25.02	Identity complications and interventions during pregnancy.
25.03	Describe how to assist the RN with admitting the patient to labor and delivery.
25.04	Describe the stages of the labor process and nursing responsibilities.

	25.05 Describe the importance of monitoring contractions.
	25.06 Recognize the importance of monitoring fetal heart rate.
	25.07 Recognize signs/symptoms of fetal distress.
	25.08 Describe signs of complications during labor and delivery and nursing interventions.
	25.09 Demonstrate how to assist the RN with preparing the patient for Caesarean.
	25.10 Describe and demonstrate care during delivery process.
	25.11 Describe Apgar score.
	25.12 Demonstrate how to suction infant's respiratory passage with bulb syringe.
	25.13 Demonstrate how to identify infant using mother's bracelet.
	25.14 Demonstrate how to weigh and measure infant.
	25.15 Demonstrate how to bathe infant.
	25.16 Demonstrate how to carry infant.
	25.17 Demonstrate how to feed infant.
	25.18 Demonstrate how to collect urine specimen from infant.
	25.19 Describe post- partum care.
	25.20 Demonstrate perineal care.
	25.21 Describe breast care for both breast feeding and bottle feeding mothers.
	25.22 Assist mother with infant care.
	25.23 Describe the care required for an infant with a circumcision.
	25.24 Demonstrate perineal care and diapering technique.
	25.25 Describe the discharge process of the postpartum and infant patient.
26.0	Demonstrate knowledge of SIDS/ SUIDS as it relates to the practical nursing role. –The student will be able to:
	26.01 Define SIDS and Sudden Unexpected Infant Death (SUID).

	26.02 Identify the critical SIDS/SUID risk-reduction methods for parents and caregivers.
	26.03 Demonstrate an understanding of the benefits of back sleeping for newborns and infants.
	26.04 Describe the LPN's key role as educators to parents and caregivers about SIDS/SUID.
27.0	Demonstrate how to care for pediatric patients, utilizing nursing principles (which can be accomplished through a combination of simulation, laboratory and clinical settings in accordance with F.S.464.019) –The student will be able to:
	27.01 Describe how to adapt nursing care for the pediatric patient.
	27.02 Describe how to apply safety principles for the pediatric patient.
	27.03 Describe general characteristics, particular needs, and problems of pediatric patients.
	27.04 Demonstrate how to prepare patient and family for the hospital experience.
	27.05 Identify signs and symptoms of common disorders/diseases.
	27.06 Demonstrate how to implement prescribed nutritional requirement.
	27.07 Demonstrate how to provide diversion and recreational activities.
28.0	Develop transitional skills --The student will be able to:
	28.01 Organize complex patient care assignments with multiple clients.
	28.02 Discuss F.S. 464 and the corresponding Rules
	28.03 Discuss the scope of practice of a Licensed Practical Nurse in a leadership/supervisory role
	28.04 Describe the role of the LPN in delegation to unlicensed personnel
	28.05 Describe the Florida Board of Nursing requirements for licensure renewal
	28.06 Demonstrate an understanding of licensure by examination and by endorsement
	28.07 Complete application for licensure by examination.
	28.08 Discuss current legislation pertinent to the Florida Board of Nursing and its effect on your nursing practice.
	28.09 Determine how to apply for membership in a professional organization.
	28.10 Discuss benefits and responsibilities of the LPN in membership in a professional organization.
29.0	Demonstrate employability skills specific to practical nursing--The student will be able to:

29.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
29.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
29.03	Recognize the potential for stress in the practice of nursing and develop methods of managing stress.
29.04	Recognize the potential for violence in the workplace and describe methods of reducing that potential.
29.05	Identify employment opportunities for licensed practical nurses
29.06	Participate in interview skill development activities.
29.07	Complete letters of job application and resignation.
29.08	Complete a professional portfolio, including a resume.

IV Therapy: The following intended outcomes 01-12 can ONLY be taken by graduate Practical Nurses who have completed their practical nursing program.	
01.0	Explain the legal aspects of IV administration by practical nurses–The student will be able to:
01.01	Explain the Nurse Practice Act and the Florida Administrative Code as it relates to IV therapy by LPNs.
01.02	Describe the policies and procedures of employing agencies as they relate to IV therapy by LPNs.
01.03	Chart IV therapy including all principles of charting necessary for legal documentation.
01.04	List the aspects of intravenous therapy that can only be given under the direct supervision of the registered professional nurse.
02.0	Demonstrate knowledge of the peripheral veins used for venipuncture–The student will be able to:
02.01	Locate and identify the peripheral veins used for venipuncture.
02.02	List preference of peripheral vein location used for venipuncture.
03.0	Perform a venipuncture–The student will be able to:
03.01	Prepare and support the patient psychologically.
03.02	Prepare and support the patient's family and/or visitors psychologically.
03.03	Prepare and support the patient physically.

	03.04 Choose equipment appropriately.
	03.05 Choose and properly prepare appropriate site(s).
	03.06 Palpate the vein(s) adequately.
	03.07 Insert equipment into the vein maintaining the safety of both the patient and the nurse.
04.0	Discuss the effect of IV therapy on the body–The student will be able to:
	04.01 Describe the relationship between intravenous therapy and the body's homeostatic and regulatory functions.
	04.02 Discuss clinical manifestations of fluid and electrolyte imbalance.
05.0	Recognize and respond to adverse reactions to IV therapy–The student will be able to:
	05.01 Recognize the signs and symptoms of local complications to IV therapy.
	05.02 Recognize the signs and symptoms of systemic complications to IV therapy.
	05.03 Discuss preventive measures for both local and systemic complications.
	05.04 Describe appropriate treatment measures for both local and systemic complications.
06.0	Recognize and use various types of IV equipment–The student will be able to:
	06.01 Identify various types of equipment used in administering IV therapy.
	06.02 Discuss the criteria for the use of each type of equipment.
	06.03 Describe how to troubleshoot for malfunction of various types of equipment.
07.0	Administer drugs intravenously–The student will be able to:
	07.01 List formulas and calculate fluid and drug administration rate.
	07.02 List methods of administering drugs intravenously, including the advantages and disadvantages of each.
	07.03 Utilize the principles of compatibility and incompatibility of drugs and solutions in preparing for administration.
	07.04 Administer IV drugs incorporating the "six rights" of medication administration.
08.0	Care for patients receiving IV drug therapy, blood and blood components, and/or parenteral nutrition–The student will be able to:
	08.01 Utilize the principles of chemotherapy, including protocols, actions, and side effects when caring for patients receiving drug therapy.

	08.02 Manage the care of the patient receiving parenteral nutrition, including the principles of metabolism, potential complications, physical and psychological measures to ensure the desired therapeutic effect.
	08.03 Manage the care of the patient receiving blood and blood components, following institutional protocols, including indications and contraindications for use and identification of adverse reactions.
09.0	Describe and utilize the principles of infection control in IV therapy–The student will be able to:
	09.01 Use aseptic technique as related to IV therapy.
	09.02 Describe ways to prevent iatrogenic infection.
	09.03 Describe treatment for iatrogenic infections.
10.0	Care for the patient receiving special IV therapy procedures–The student will be able to:
	10.01 Describe and utilize the nursing management necessary for heparin locks.
	10.02 Describe and utilize the nursing management necessary for central lines.
	10.03 Describe and utilize the nursing management necessary for arterial lines.
11.0	Recognize terminology pertinent to IV therapy–The student will be able to:
	11.01 Define terms common to IV therapy.
	11.02 Interpret written IV terms and abbreviations correctly.
	11.03 Use correct IV terminology in all written and oral communications.
12.0	Care for the patient receiving IV therapy via central lines–The student will be able to:
	12.01 Describe the location of central lines and the purpose of this IV therapy.
	12.02 Administer fluids and medications via central lines.
	12.03 Demonstrate blood drawing via central lines.
	12.04 List central line complications and interventions appropriate to correct them.
	12.05 Describe and perform central line dressings, cap changes, and flushing, noting the adverse effects and remediation.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program H170605 has a statewide articulation agreement approved by the Florida State Board of Education:

Nursing R.N. AS (1351380100) – 10 credit hours

The following industry certifications have been approved by the Florida State Board of Education for statewide articulation credit into the Nursing R.N. (1351380100) AS degree.

Licensed Practical Nurse (FDMQA017) – 10 credits

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 11, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Nursing Assistant (Articulated)**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170690
CIP Number	0351390203
Grade Level	30,31
Standard Length	165 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1014 Nursing Assistants 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as nursing assistants (SOC 31-1014 Nursing Assistants).

The content includes but is not limited to interpersonal skills, medical terminology, legal and ethical responsibilities, safe and efficient work, gerontology, nutrition, pet-facilitated therapy, health and safety including Cardio-pulmonary Resuscitation (CPR) – heart saver level, and employability skills.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	90 hours	31-9099
B	HCP0121	Nurse Aide and Orderly (Articulated)		75 hours	31-1014

**** The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., Clinical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, and may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use verbal and written communications specific to nurse assisting
13.0 Demonstrate legal and ethical responsibilities specific to nurse assisting
14.0 Perform physical comfort and safety functions specific to nurse assisting
15.0 Provide personal patient care
16.0 Perform patient care procedures
17.0 Apply principles of nutrition
18.0 Provide care for geriatric patients
19.0 Apply the principles of infection control specific to nursing assisting
20.0 Provide biological, psychological, and social support
21.0 Perform supervised organizational functions, following the patient plan of care
22.0 Assist with restorative (rehabilitative) activities
23.0 Perform skills related to the hospital setting (optional)

Florida Department of Education
Student Performance Standards

Program Title: Nursing Assistant (Articulated)
PSAV Number: H170690

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HCP0121 **Occupational Completion Point: B** **Nurse Aide and Orderly (Articulated) – SOC Code 31-1014**	
12.0	Use verbal and written communications specific to nurse assisting–The student will be able to:
12.01	Obtain specified data from patient and family.
12.02	Utilize verbal and written information to assist with the patient's plan of care.
12.03	Demonstrate use of the communication system.
13.0	Demonstrate legal and ethical responsibilities specific to nurse assisting–The student will be able to:
13.01	Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.
13.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)
13.03	Follow policies and procedures affecting the health, safety, and well-being of patients.
13.04	Recognize and report signs of substance abuse.
13.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.
13.06	Follow legal guidelines in documentation.

	13.07	Demonstrate methods regarding risk management including prevention and quality of care.
	13.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.
	13.09	Recognize that a C.N.A. must self-report any crimes they've been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).
	13.10	Discuss Florida certified nursing assistant rules including role limitations.
	13.11	Recognize potential for and prevention of medical errors.
	13.12	Discuss proper procedures to follow regarding medical errors.
14.0	Perform physical comfort and safety functions specific to nurse assisting–The student will be able to:	
	14.01	Maintain patient units and equipment.
	14.02	Maintain service areas on the units including supplies and equipment.
	14.03	Observe, report, and record changes in the patient's behavior daily, including mental awareness.
	14.04	Adjust bed and side-rails.
	14.05	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.
	14.06	Turn and position patient.
	14.07	Demonstrate the proper use of a gait belt in both transfer and ambulation.
	14.08	Transfer patient to stretcher.
	14.09	Apply protective devices as directed (e.g., vest and belt).
	14.10	Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).
	14.11	Assist patient to dangle.
	14.12	Assist patient in ambulation, including the use of crutch, cane, or walker.
	14.13	Assist patient in using wheelchair.
	14.14	Assist patient with care and use of prosthetic/orthotic devices.
	14.15	Describe emergency procedures utilized in the clinical area(s).
	14.16	Implement appropriate regulatory and accrediting agency patient safety guidelines.

15.0	Provide personal patient care--The student will be able to:
	15.01 Give bed bath; observe and report changes in patient including skin and level of consciousness.
	15.02 Administer back rub.
	15.03 Assist with shower or tub bath, including the use of specialty tubs.
	15.04 Assist patient with sink, tub, shower, or bed shampoo.
	15.05 Demonstrate the use of a safety and/or electric razor to shave the patient.
	15.06 Groom patient, including hair, skin, foot, hand and nail care.
	15.07 Assist with and/or administer oral hygiene including denture care.
	15.08 Assist patient with toileting using various types of restorative and rehabilitative equipment.
	15.09 Assist patient to dress.
	15.10 Assist patient with meals.
	15.11 Assist with bowel and bladder training.
	15.12 Assist and/ or provide perineal care.
	15.13 Empty, measure and record urinary output and/or drainage.
	15.14 Assist patient with both donning and doffing prosthesis and brace.
	15.15 Demonstrate application and use of a leg bag, leg strap and dignity bag.
	15.16 Monitor and assist with the drainage of urostomy bags and colostomy bags.
16.0	Perform patient care procedures–The student will be able to:
	16.01 Demonstrate ability to accurately measure, record and report vital signs.
	16.02 Assist with the admission of a patient and/or resident.
	16.03 Assist with transfer of patient.
	16.04 Assist with discharge of patient.
	16.05 Make unoccupied/occupied bed.

16.06	Measure and record patient's height and weight.
16.07	Assist patient in passive range-of-motion exercises.
16.08	Apply anti-embolic hose and sequential compression devices.
16.09	Collect, strain, and/or test routine urine specimen.
16.10	Collect timed urine specimen.
16.11	Collect clean-catch (midstream-voided) urine specimen.
16.12	Record fluid intake and output (I&O).
16.13	Observe, record, and report patient's emesis.
16.14	Monitor and provide with care of urinary catheters and drainage systems for both males and females.
16.15	Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.
16.16	Collect stool specimen.
16.17	Perform postmortem care.
16.18	Maintain patient-belongings list.
16.19	Assist the nurse with care of the patient with complex medical needs.
16.20	Assist with the collection of a sputum specimen.
17.0	Apply principles of nutrition–The student will be able to:
17.01	Identify nutrients and food groups.
17.02	Explain regional, cultural, and religious food references.
17.03	Describe special diets.
17.04	Prepare a basic food plan.
17.05	Check patient's diet tray for accuracy.
17.06	Demonstrate knowledge of the need for thickened liquids and fluid consistency.
17.07	Identify methods of maintaining fluid balance including forcing and restricting fluids..

	17.08 Monitor and document Nutritional Intake.
18.0	Provide care for geriatric patients–The student will be able to:
	18.01 Identify methods and procedures to prevent pressure ulcers.
	18.02 Identify methods to prevent falls in the elderly.
	18.03 Identify safety principles as related to the elderly.
	18.04 Describe general characteristics, particular needs, and problems of the elderly.
	18.05 Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	18.06 Distinguish between fact and fallacy about the aging process.
	18.07 Identify the need for community resources and services available to the elderly and their family.
	18.08 Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	18.09 Provide and involve patients in diversional activities.
	18.10 Identify common alterations in elderly patient behavior.
	18.11 Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	18.12 Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	18.13 Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	18.14 Report concerns to the nurse related to drug use and abuse in the elderly patient.
	18.15 Identify components of the grief process.
	18.16 Demonstrate an understanding of end of life care, hospice and palliative care.
19.0	Apply the principles of infection control specific to nursing assisting–The student will be able to:
	19.01 Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.
	19.02 Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.
	19.03 Follow isolation procedure with food tray, garments, and other materials.
	19.04 Collect specimen from patient in isolation.

20.0	Provide biological, psychological, and social support–The student will be able to:
	20.01 Discuss family roles and their significance to health.
	20.02 Respond to patient and family emotional needs.
21.0	Perform supervised organizational functions, following the patient plan of care–The student will be able to:
	21.01 Organize patient-care assignments.
	21.02 Complete assignments accurately and in a timely manner.
22.0	Assist with restorative (rehabilitative) activities–The student will be able to:
	22.01 List the purposes of restorative (rehabilitation) program.
	22.02 Assist patient with specified restorative (rehabilitation) needs.
	22.03 Assist patients/residents to reach the optimum level of independence.
23.0	Perform skills related to the hospital setting (optional) –The student will be able to:
	23.01 Care for hospital equipment and supplies.
	23.02 Transfer patient to stretcher.
	23.03 Assist patient to apply binders.
	23.04 Care for patient in skin and skeletal traction.
	23.05 Assist with pre-operative and post-operative patient care.
	23.06 Reinforce dressings under the supervision of the RN/LPN.
	23.07 Obtain and record an apical pulse.
	23.08 Obtain and record an apical-radial pulse.
	23.09 Obtain and record pedal pulse.
	23.10 Provide cast care and/or pin care.
	23.11 Provide care for eye glasses, artificial eyes, and contact lens.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The length of this program is 165 hours. Completion of this program should enable the postsecondary student to be given advanced standing in the Patient Care Technician and Patient Care Assistant programs.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Patient Care Assistant**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170692
CIP Number	0351390202
Grade Level	30,31
Standard Length	290 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1014 Nursing Assistants 31-1011 Home Health Aides 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as cross trained nursing assistants (SOC 31-1014 Nursing Assistants). All others, Patient Care Assistants, Nursing Aides and Orderlies, or Home Health Aides. This program offers a broad foundation of knowledge and skills, expanding the traditional role of the nursing assistant, for both acute and long term care settings.

The program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 4 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	90 hours	31-9099
B	HCP0121	Nurse Aide and Orderly (Articulated)		75 hours	31-1014
C	HCP0332	Advanced Home Health Aide	REG NURSE 7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	50 hours	31-1011
D	HCP0020	Patient Care Assistant		75 hours	31-9099

**** The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and have follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., Clinical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, and may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

Please refer to 42CFR§484.36 for the clinical requirements for the Home Health Aide program.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use verbal and written communications specific to the nursing assistant.
13.0 Demonstrate legal and ethical responsibilities specific to the nursing assistant.
14.0 Perform physical comfort and safety functions specific to the nursing assistant.
15.0 Provide personal patient care.
16.0 Perform patient care procedures.
17.0 Apply principles of nutrition.
18.0 Provide care for geriatric patients.
19.0 Apply the principles of infection control specific to the nursing assistant.
20.0 Provide biological, psychological, and social support.
21.0 Perform supervised organizational functions, following the patient plan of care.
22.0 Assist with restorative (rehabilitative) activities.
23.0 Perform skills related to the hospital setting (optional)
24.0 Use verbal and written communications specific to home health aide.
25.0 Demonstrate legal and ethical responsibilities specific to home health aide.
26.0 Perform physical comfort and safety functions specific to home health aide.
27.0 Apply principles of nutrition specific to home health aide.
28.0 Apply the principles of infection control specific to home health aide.
29.0 Perform home health-care services.
30.0 Perform nursing assistant skills related to the hospital setting.
31.0 Provide nursing assistant care for the adult patient.

Florida Department of Education
Student Performance Standards

Program Title: **Patient Care Assistant**
PSAV Number: **H170692**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HCP0121 **Occupational Completion Point: B** **Nurse Aide and Orderly (Articulated) – SOC Code 31-1014**	
The following intended outcomes 12-23 should be taught together as a module to achieve the occupational completion point of Articulated Nursing Assistant. The average achieving student should be able to complete the module in 75 clock hours. The standard length for the Nursing Assistant (Articulated) program including the core is 165 hours but cannot be less than 120 hours.	
12.0	Use verbal and written communications specific to nurse assisting–The student will be able to:
12.01	Obtain specified data from patient and family.
12.02	Utilize verbal and written information to assist with the patient's plan of care.
12.03	Demonstrate use of the communication system.
13.0	Demonstrate legal and ethical responsibilities specific to nurse assisting–The student will be able to:
13.01	Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.
13.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)
13.03	Follow policies and procedures affecting the health, safety, and well-being of patients.
13.04	Recognize and report signs of substance abuse.

	13.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.
	13.06	Follow legal guidelines in documentation.
	13.07	Demonstrate methods regarding risk management including prevention and quality of care.
	13.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.
	13.09	Recognize that a C.N.A. must self-report any crimes they've been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).
	13.10	Discuss Florida certified nursing assistant rules including role limitations.
	13.11	Recognize potential for and prevention of medical errors.
	13.12	Discuss proper procedures to follow regarding medical errors.
14.0	Perform physical comfort and safety functions specific to nurse assisting–The student will be able to:	
	14.01	Maintain patient units and equipment.
	14.02	Maintain service areas on the units including supplies and equipment.
	14.03	Observe, report, and record changes in the patient's behavior daily, including mental awareness.
	14.04	Adjust bed and side-rails.
	14.05	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.
	14.06	Turn and position patient.
	14.07	Demonstrate the proper use of a gait belt in both transfer and ambulation.
	14.08	Transfer patient to stretcher.
	14.09	Apply protective devices as directed (e.g., vest and belt).
	14.10	Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).
	14.11	Assist patient to dangle.
	14.12	Assist patient in ambulation, including the use of crutch, cane, or walker.
	14.13	Assist patient in using wheelchair.
	14.14	Assist patient with care and use of prosthetic/orthotic devices.

	14.15 Describe emergency procedures utilized in the clinical area(s).
	14.16 Implement appropriate regulatory and accrediting agency patient safety guidelines.
15.0	Provide personal patient care--The student will be able to:
	15.01 Give bed bath; observe and report changes in patient including skin and level of consciousness.
	15.02 Administer back rub.
	15.03 Assist with shower or tub bath, including the use of specialty tubs.
	15.04 Assist patient with sink, tub, shower, or bed shampoo.
	15.05 Demonstrate the use of a safety and/or electric razor to shave the patient.
	15.06 Groom patient, including hair, skin, foot, hand and nail care.
	15.07 Assist with and/or administer oral hygiene including denture care.
	15.08 Assist patient with toileting using various types of restorative and rehabilitative equipment.
	15.09 Assist patient to dress.
	15.10 Assist patient with meals.
	15.11 Assist with bowel and bladder training.
	15.12 Assist and/ or provide perineal care.
	15.13 Empty, measure and record urinary output and/or drainage.
	15.14 Assist patient with both donning and doffing prosthesis and brace.
	15.15 Demonstrate application and use of a leg bag, leg strap and dignity bag.
	15.16 Monitor and assist with the drainage of urostomy bags and colostomy bags.
16.0	Perform patient care procedures–The student will be able to:
	16.01 Demonstrate ability to accurately measure, record and report vital signs.
	16.02 Assist with the admission of a patient and/or resident.
	16.03 Assist with transfer of patient.

16.04	Assist with discharge of patient.
16.05	Make unoccupied/occupied bed.
16.06	Measure and record patient's height and weight.
16.07	Assist patient in passive range-of-motion exercises.
16.08	Apply anti-embolic hose and sequential compression devices.
16.09	Collect, strain, and/or test routine urine specimen.
16.10	Collect timed urine specimen.
16.11	Collect clean-catch (midstream-voided) urine specimen.
16.12	Record fluid intake and output (I&O).
16.13	Observe, record, and report patient's emesis.
16.14	Monitor and provide with care of urinary catheters and drainage systems for both males and females.
16.15	Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.
16.16	Collect stool specimen.
16.17	Perform postmortem care.
16.18	Maintain patient-belongings list.
16.19	Assist the nurse with care of the patient with complex medical needs.
16.20	Assist with the collection of a sputum specimen.
17.0	Apply principles of nutrition–The student will be able to:
17.01	Identify nutrients and food groups.
17.02	Explain regional, cultural, and religious food references.
17.03	Describe special diets.
17.04	Prepare a basic food plan.
17.05	Check patient's diet tray for accuracy.

	17.06	Demonstrate knowledge of the need for thickened liquids and fluid consistency.
	17.07	Identify methods of maintaining fluid balance including forcing and restricting fluids.
	17.08	Monitor and document Nutritional Intake.
18.0	Provide care for geriatric patients–The student will be able to:	
	18.01	Identify methods and procedures to prevent pressure ulcers.
	18.02	Identify methods to prevent falls in the elderly.
	18.03	Identify safety principles as related to the elderly.
	18.04	Describe general characteristics, particular needs, and problems of the elderly.
	18.05	Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	18.06	Distinguish between fact and fallacy about the aging process.
	18.07	Identify the need for community resources and services available to the elderly and their family.
	18.08	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	18.09	Provide and involve patients in diversional activities.
	18.10	Identify common alterations in elderly patient behavior.
	18.11	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	18.12	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	18.13	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	18.14	Report concerns to the nurse related to drug use and abuse in the elderly patient.
	18.15	Identify components of the grief process.
	18.16	Demonstrate an understanding of end of life care, hospice and palliative care.
19.0	Apply the principles of infection control specific to nursing assisting–The student will be able to:	
	19.01	Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.
	19.02	Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.

	19.03 Follow isolation procedure with food tray, garments, and other materials.
	19.04 Collect specimen from patient in isolation.
20.0	Provide biological, psychological, and social support–The student will be able to:
	20.01 Discuss family roles and their significance to health.
	20.02 Respond to patient and family emotional needs.
21.0	Perform supervised organizational functions, following the patient plan of care–The student will be able to:
	21.01 Organize patient-care assignments.
	21.02 Complete assignments accurately and in a timely manner.
22.0	Assist with restorative (rehabilitative) activities–The student will be able to:
	22.01 List the purposes of restorative (rehabilitation) program.
	22.02 Assist patient with specified restorative (rehabilitation) needs.
	22.03 Assist patients/residents to reach the optimum level of independence.
23.0	Perform skills related to the hospital setting (optional) –The student will be able to:
	23.01 Care for hospital equipment and supplies.
	23.02 Transfer patient to stretcher.
	23.03 Assist patient to apply binders.
	23.04 Care for patient in skin and skeletal traction.
	23.05 Assist with pre-operative and post-operative patient care.
	23.06 Reinforce dressings under the supervision of the RN/LPN.
	23.07 Obtain and record an apical pulse.
	23.08 Obtain and record an apical-radial pulse.
	23.09 Obtain and record pedal pulse.
	23.10 Provide cast care and/or pin care.

	23.11 Provide care for eye glasses, artificial eyes, and contact lens.

Course number: HCP0332
Occupational completion point: C
Advanced Home Health Aide – 50 hours – soc code 31-1011

Students in this module have already completed a Nursing Assistant program. After completing this module, the student will have achieved the occupational completion point of Advanced Home Health Aide (a home health aide who is also a nursing assistant). This program also meets the requirements of Home Health Aide as stated in Rules of the Department of Health and Rehabilitative services, Division of Health, Chapter 10D-68 - Minimum Standards for Home Health Agencies.

Please refer to 42CFR§484.36 for the clinical and faculty requirements for the Home Health Aide course.

The recommended length of instruction for this module is 50 clock hours but no less than 20. Beginning 1995-96, secondary students who have completed the course 8417210 Nursing Assistant should take this module to become a home health aide.

24.0	Use verbal and written communications specific to home health aide.--The student will be able to:
	24.01 Obtain specified data from patient and family/significant others.
	24.02 Utilize verbal and written information to contribute to the patient's plan of care.
	24.03 Recognizes cultural differences in family.
25.0	Demonstrate legal and ethical responsibilities specific to home health aide.--The student will be able to:
	25.01 Demonstrate legal and ethical behavior within the role and scope of home health aide responsibilities.
	25.02 Follow policies and procedures affecting the health, safety, and well-being of patients in the home setting.
26.0	Perform physical comfort and safety functions specific to home health aide.--The student will be able to:
	26.01 Maintain a clean and safe home environment for the patient.
	26.02 Identify emergency evacuation procedures with adaptations to the home setting.
27.0	Apply principles of nutrition specific to home health aide.--The student will be able to:
	27.01 List factors that must be considered when purchasing food.
	27.02 List factors that must be considered when storing food.
	27.03 Discuss preparation and serving of trays in the home.
28.0	Apply the principles of infection control specific to home health aide.--The student will be able to:

	28.01 Provide care for patients with infectious diseases in the home.
	28.02 Follow isolation procedures with food tray, garments, and other materials in the home.
	28.03 Utilize standard precautions in all home care.
29.0	Perform home health-care services.--The student will be able to:
	29.01 Follow an established work plan with the patient and family.
	29.02 Perform patient-related cleaning tasks and laundry.
	29.03 Identify methods for medication storage.
	29.04 Assist patient with taking self-administered prescribed medication in the home and identify possible side effects and emergency procedures for adverse reactions in accordance with F.A.C. 59A-8.0095.
	29.05 Demonstrate how to utilize specified equipment and supplies in the home.

Course Number: HCP0020
Occupational Completion Point: D
Patient Care Assistant – 75 Hours – Soc Code 31-9099

Students enrolled in this module have previously completed a Nursing Assistant and Home Health Aide program and are adding these skills to work in a health care facility other than a nursing home. The average achieving student should complete this module in 75 clock hours. The occupational completion point Patient Care Assistant can only be achieved when this module is completed plus the modules/or credentials for Home Health Aide and Nursing Assistant are satisfied.

30.0	Perform nursing assistant skills related to the hospital setting.--The student will be able to:
	30.01 Care for hospital equipment and supplies.
	30.02 Transfer patient to stretcher.
	30.03 Prepare hot and cold applications for nurse to apply them.
	30.04 Assist patient to apply binders.
	30.05 Care for patient in skin and skeletal traction.
	30.06 Assist with pre-operative and post-operative patient care.
	30.07 Reinforce dressings.
	30.08 Practice nursing procedures from the nursing assistant module in the hospital setting.
31.0	Provide nursing assistant care for the adult patient.--The student will be able to:

31.01	Assist with physical examination.
31.02	Care for patients receiving oxygen therapy.
31.03	Change an unsterile dressing.
31.04	Take an apical pulse.
31.05	Measure for an apical-radial pulse deficit.
31.06	Take pedal pulse.
31.07	Give cast care and/or pin care.
31.08	Give artificial eye/contact lens care.
31.09	Demonstrate understanding and knowledge of needs of patients with specific common health problems.
31.10	Measure pulse oximetry and report decreasing levels of O_2 saturation.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program also meets the requirements of home health aide as stated in rules of the department of health and rehabilitative services, division of health, chapter 10d-68 - minimum standards for home health agencies.

Please refer to 42CFR§484.36 for the clinical and faculty requirements for the Home Health Aide course.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students who have completed the Health Science Core may articulate to this program. For teacher certification requirements for the remaining modules please check the certification diagram and/or the individual module.

Completion of this program should enable the postsecondary student to be given advanced standing in the Practical Nursing program H170605 as well as the ability to enter the Patient Care Technician program at OCP E.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Patient Care Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170694
CIP Number	0351390205
Grade Level	30,31
Standard Length	600 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-1014 Nursing Assistants 31-1011 Home Health Aides 31-9099 Healthcare Support Workers, All Other 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program is designed to prepare students for employment as advanced cross trained nursing assistants (patient care technicians), SOC Code 29-2099.00 (Health Technologists and Technicians), Health Care Technicians, Patient Care Assistants, Nursing Aides and Orderlies (66008439), Home Health Aides (66011456), or Allied Health Assistants. This program offers a broad foundation of knowledge and skills, expanding the traditional role of the nursing assistant, for both acute and long term care settings.

The program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 6 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	90 hours	31-9099
B	HCP0121	Nurse Aide and Orderly (Articulated)		75 hours	31-1014
C	HCP0332	Advanced Home Health Aide	REG NURSE 7 G PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	50 hours	31-1011
D	HCP0020	Patient Care Assistant		75 hours	31-9099
E	HSC0016	Allied Health Assistant		150 hours	31-9099
F	MEA0580	Advanced Allied Health Assistant		100 hours	31-9099
G	PRN0094	Patient Care Technician		60 hours	31-9099

**** The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.***

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and have follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., Clinical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, and may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

Please refer to 42CFR§484.36 for the clinical requirements for the Home Health Aide program.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use verbal and written communications specific to the nursing assistant.
13.0 Demonstrate legal and ethical responsibilities specific to the nursing assistant.
14.0 Perform physical comfort and safety functions specific to the nursing assistant.
15.0 Provide personal patient care.
16.0 Perform patient care procedures.
17.0 Apply principles of nutrition.
18.0 Provide care for geriatric patients.
19.0 Apply the principles of infection control specific to the nursing assistant.
20.0 Provide biological, psychological, and social support.
21.0 Perform supervised organizational functions, following the patient plan of care.
22.0 Assist with restorative (rehabilitative) activities.
23.0 Perform skills related to the hospital setting (optional)
24.0 Use verbal and written communications specific to home health aide.
25.0 Demonstrate legal and ethical responsibilities specific to home health aide.
26.0 Perform physical comfort and safety functions specific to home health aide.
27.0 Apply principles of nutrition specific to home health aide.
28.0 Apply the principles of infection control specific to home health aide.
29.0 Perform home health-care services.
30.0 Perform nursing assistant skills related to the hospital setting.
31.0 Provide nursing assistant care for the adult patient.
32.0 Perform skills representative of 1-3 major allied health areas as determined by local labor market demand.
33.0 Successfully complete a clinical rotation in the selected major allied health areas.
34.0 Perform additional skills from the previous module which are in the aide level and do not go beyond the scope of practice of unlicensed assistive personnel.
35.0 Successfully complete a clinical rotation in the selected major allied health areas.
36.0 Demonstrate knowledge of organizational and effective team member skills.
37.0 Practice organizational and effective team member skills in a clinical setting.

Florida Department of Education
Student Performance Standards

Program Title: **Patient Care Technician**
PSAV Number: **H170694**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HCP0121
Occupational Completion Point: B
Nurse Aide and Orderly (Articulated) – SOC Code 31-1014

The following intended outcomes 12-23 should be taught together as a module to achieve the occupational completion point of Articulated Nursing Assistant. The average achieving student should be able to complete the module in 75 clock hours. The standard length for the Nursing Assistant (Articulated) program including the core is 165 hours but cannot be less than 120 hours.	
12.0	Use verbal and written communications specific to nurse assisting–The student will be able to:
	12.01 Obtain specified data from patient and family.
	12.02 Utilize verbal and written information to assist with the patient's plan of care.
	12.03 Demonstrate use of the communication system.
13.0	Demonstrate legal and ethical responsibilities specific to nurse assisting–The student will be able to:
	13.01 Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.
	13.02 Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)
	13.03 Follow policies and procedures affecting the health, safety, and well-being of patients.
	13.04 Recognize and report signs of substance abuse.

	13.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.
	13.06	Follow legal guidelines in documentation.
	13.07	Demonstrate methods regarding risk management including prevention and quality of care.
	13.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.
	13.09	Recognize that a C.N.A. must self-report any crimes they've been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).
	13.10	Discuss Florida certified nursing assistant rules including role limitations.
	13.11	Recognize potential for and prevention of medical errors.
	13.12	Discuss proper procedures to follow regarding medical errors.
14.0	Perform physical comfort and safety functions specific to nurse assisting–The student will be able to:	
	14.01	Maintain patient units and equipment.
	14.02	Maintain service areas on the units including supplies and equipment.
	14.03	Observe, report, and record changes in the patient's behavior daily, including mental awareness.
	14.04	Adjust bed and side-rails.
	14.05	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.
	14.06	Turn and position patient.
	14.07	Demonstrate the proper use of a gait belt in both transfer and ambulation.
	14.08	Transfer patient to stretcher.
	14.09	Apply protective devices as directed (e.g., vest and belt).
	14.10	Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).
	14.11	Assist patient to dangle.
	14.12	Assist patient in ambulation, including the use of crutch, cane, or walker.
	14.13	Assist patient in using wheelchair.
	14.14	Assist patient with care and use of prosthetic/orthotic devices.

	14.15 Describe emergency procedures utilized in the clinical area(s).
	14.16 Implement appropriate regulatory and accrediting agency patient safety guidelines.
15.0	Provide personal patient care--The student will be able to:
	15.01 Give bed bath; observe and report changes in patient including skin and level of consciousness.
	15.02 Administer back rub.
	15.03 Assist with shower or tub bath, including the use of specialty tubs.
	15.04 Assist patient with sink, tub, shower, or bed shampoo.
	15.05 Demonstrate the use of a safety and/or electric razor to shave the patient.
	15.06 Groom patient, including hair, skin, foot, hand and nail care.
	15.07 Assist with and/or administer oral hygiene including denture care.
	15.08 Assist patient with toileting using various types of restorative and rehabilitative equipment.
	15.09 Assist patient to dress.
	15.10 Assist patient with meals.
	15.11 Assist with bowel and bladder training.
	15.12 Assist and/ or provide perineal care.
	15.13 Empty, measure and record urinary output and/or drainage.
	15.14 Assist patient with both donning and doffing prosthesis and brace.
	15.15 Demonstrate application and use of a leg bag, leg strap and dignity bag.
	15.16 Monitor and assist with the drainage of urostomy bags and colostomy bags.
16.0	Perform patient care procedures–The student will be able to:
	16.01 Demonstrate ability to accurately measure, record and report vital signs.
	16.02 Assist with the admission of a patient and/or resident.
	16.03 Assist with transfer of patient.

16.04	Assist with discharge of patient.
16.05	Make unoccupied/occupied bed.
16.06	Measure and record patient's height and weight.
16.07	Assist patient in passive range-of-motion exercises.
16.08	Apply anti-embolic hose and sequential compression devices.
16.09	Collect, strain, and/or test routine urine specimen.
16.10	Collect timed urine specimen.
16.11	Collect clean-catch (midstream-voided) urine specimen.
16.12	Record fluid intake and output (I&O).
16.13	Observe, record, and report patient's emesis.
16.14	Monitor and provide with care of urinary catheters and drainage systems for both males and females.
16.15	Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.
16.16	Collect stool specimen.
16.17	Perform postmortem care.
16.18	Maintain patient-belongings list.
16.19	Assist the nurse with care of the patient with complex medical needs.
16.20	Assist with the collection of a sputum specimen.
17.0	Apply principles of nutrition–The student will be able to:
17.01	Identify nutrients and food groups.
17.02	Explain regional, cultural, and religious food references.
17.03	Describe special diets.
17.04	Prepare a basic food plan.
17.05	Check patient's diet tray for accuracy.

	17.06	Demonstrate knowledge of the need for thickened liquids and fluid consistency.
	17.07	Identify methods of maintaining fluid balance including forcing and restricting fluids.
	17.08	Monitor and document Nutritional Intake.
18.0	Provide care for geriatric patients–The student will be able to:	
	18.01	Identify methods and procedures to prevent pressure ulcers.
	18.02	Identify methods to prevent falls in the elderly.
	18.03	Identify safety principles as related to the elderly.
	18.04	Describe general characteristics, particular needs, and problems of the elderly.
	18.05	Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	18.06	Distinguish between fact and fallacy about the aging process.
	18.07	Identify the need for community resources and services available to the elderly and their family.
	18.08	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	18.09	Provide and involve patients in diversional activities.
	18.10	Identify common alterations in elderly patient behavior.
	18.11	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	18.12	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	18.13	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	18.14	Report concerns to the nurse related to drug use and abuse in the elderly patient.
	18.15	Identify components of the grief process.
	18.16	Demonstrate an understanding of end of life care, hospice and palliative care.
19.0	Apply the principles of infection control specific to nursing assisting–The student will be able to:	
	19.01	Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.
	19.02	Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.

	19.03 Follow isolation procedure with food tray, garments, and other materials.
	19.04 Collect specimen from patient in isolation.
20.0	Provide biological, psychological, and social support–The student will be able to:
	20.01 Discuss family roles and their significance to health.
	20.02 Respond to patient and family emotional needs.
21.0	Perform supervised organizational functions, following the patient plan of care–The student will be able to:
	21.01 Organize patient-care assignments.
	21.02 Complete assignments accurately and in a timely manner.
22.0	Assist with restorative (rehabilitative) activities–The student will be able to:
	22.01 List the purposes of restorative (rehabilitation) program.
	22.02 Assist patient with specified restorative (rehabilitation) needs.
	22.03 Assist patients/residents to reach the optimum level of independence.
23.0	Perform skills related to the hospital setting (optional) –The student will be able to:
	23.01 Care for hospital equipment and supplies.
	23.02 Transfer patient to stretcher.
	23.03 Assist patient to apply binders.
	23.04 Care for patient in skin and skeletal traction.
	23.05 Assist with pre-operative and post-operative patient care.
	23.06 Reinforce dressings under the supervision of the RN/LPN.
	23.07 Obtain and record an apical pulse.
	23.08 Obtain and record an apical-radial pulse.
	23.09 Obtain and record pedal pulse.
	23.10 Provide cast care and/or pin care.

	23.11 Provide care for eye glasses, artificial eyes, and contact lens.

Course Number: HCP0332
Occupational Completion Point: C
Advanced Home Health Aide – 50 Hours – SOC Code 31-1011

Students in this module have already completed a Nursing Assistant program. After completing this module, the student will have achieved the occupational completion point of Advanced Home Health Aide (a home health aide who is also a nursing assistant). This program also meets the requirements of Home Health Aide as stated in Rules of the Department of Health and Rehabilitative services, Division of Health, Chapter 10D-68 - Minimum Standards for Home Health Agencies.

Please refer to 42CFR§484.36 for the clinical and faculty requirements for the Home Health Aide course.

The recommended length of instruction for this module is 50 clock hours but no less than 20. Beginning 1995-96, secondary students who have completed the course 8417210 Nursing Assistant should take this module to become a home health aide.

24.0	Use verbal and written communications specific to home health aide.--The student will be able to:
	24.01 Obtain specified data from patient and family/significant others.
	24.02 Utilize verbal and written information to contribute to the patient's plan of care.
	24.03 Recognizes cultural differences in family.
25.0	Demonstrate legal and ethical responsibilities specific to home health aide.--The student will be able to:
	25.01 Demonstrate legal and ethical behavior within the role and scope of home health aide responsibilities.
	25.02 Follow policies and procedures affecting the health, safety, and well-being of patients in the home setting.
26.0	Perform physical comfort and safety functions specific to home health aide.--The student will be able to:
	26.01 Maintain a clean and safe home environment for the patient.
	26.02 Identify emergency evacuation procedures with adaptations to the home setting.
27.0	Apply principles of nutrition specific to home health aide.--The student will be able to:
	27.01 List factors that must be considered when purchasing food.
	27.02 List factors that must be considered when storing food.
	27.03 Discuss preparation and serving of trays in the home.
28.0	Apply the principles of infection control specific to home health aide.--The student will be able to:

	28.01 Provide care for patients with infectious diseases in the home.
	28.02 Follow isolation procedures with food tray, garments, and other materials in the home.
	28.03 Utilize standard precautions in all home care.
29.0	Perform home health-care services.--The student will be able to:
	29.01 Follow an established work plan with the patient and family.
	29.02 Perform patient-related cleaning tasks and laundry.
	29.03 Identify methods for medication storage.
	29.04 Assist patient with taking self-administered prescribed medication in the home and identify possible side effects and emergency procedures for adverse reactions in accordance with F.A.C. 59A-8.0095.
	29.05 Demonstrate how to utilize specified equipment and supplies in the home.

Course Number: HCP0020
Occupational Completion Point: D
Patient Care Assistant – 75 Hours – SOC Code 31-9099

Students enrolled in this module have previously completed a Nursing Assistant and Home Health Aide program and are adding these skills to work in a health care facility other than a nursing home. The average achieving student should complete this module in 75 clock hours. The occupational completion point Patient Care Assistant can only be achieved when this module is completed plus the modules/or credentials for Home Health Aide and Nursing Assistant are satisfied.

30.0	Perform nursing assistant skills related to the hospital setting.--The student will be able to:
	30.01 Care for hospital equipment and supplies.
	30.02 Transfer patient to stretcher.
	30.03 Prepare hot and cold applications for nurse to apply them.
	30.04 Assist patient to apply binders.
	30.05 Care for patient in skin and skeletal traction.
	30.06 Assist with pre-operative and post-operative patient care.
	30.07 Reinforce dressings.
	30.08 Practice nursing procedures from the nursing assistant module in the hospital setting.
31.0	Provide nursing assistant care for the adult patient.--The student will be able to:

31.01	Assist with physical examination.
31.02	Care for patients receiving oxygen therapy.
31.03	Change an unsterile dressing.
31.04	Take an apical pulse.
31.05	Measure for an apical-radial pulse deficit.
31.06	Take pedal pulse.
31.07	Give cast care and/or pin care.
31.08	Give artificial eye/contact lens care.
31.09	Demonstrate understanding and knowledge of needs of patients with specific common health problems.
31.10	Measure pulse oximetry and report decreasing levels of O_2 saturation.

Course Number: HSC0016
Occupational Completion Point: E
Allied Health Assistant – 150 Hours – SOC Code 31-9099

Students enrolled in this module have completed the Patient Care Assistant competencies and/or are adding these skills to be a multi-skilled worker. Students will perform skills representative of one to three areas of allied health care in the laboratory and clinical settings. Major areas of allied health are defined as physical therapy, emergency, radiation, laboratory and respiratory medicine, and occupational therapy. Other areas of health, medicine, dentistry, or veterinary may be included with instructor provided competencies**. Such teacher made competencies must remain at the aide level and not go beyond the scope of practice of unlicensed assistive personnel. Invasive procedures that fall into the nursing scope of practice are not to be added**. Clinical experience is defined as activities performed in the clinical setting under the supervision of the appropriate health professional. School certificates for this module must be for "Allied Health Assistant". Specific competencies should be listed on the back of the certificate.

32.0	Perform aide level skills representative of 1 to 3 major allied health areas in the school laboratory before beginning the clinical phase.--The student will be able to:	
32.01	Perform skills related to the body systems.	
32.02	If unlicensed clinical laboratory type skills is one of the selected allied health areas to be taught, only procedures that are exempt from clinical laboratory personnel licensure requirements will be presented and students will:	
	32.02.01.1	Perform waived testing on blood and urine.
	32.02.01.2	Prepare blood slides for differential blood count.
	32.02.01.3	Plate microbiological specimen on appropriate media.

	32.02.01.4	Report urine specific gravity, color and characteristics.
	32.02.01.5	Perform centrifuge operation and maintenance.
	32.02.01.6	Name (or identify) and explain the use of the common instruments/equipment found in the clinical laboratory.
	32.02.01.7	Demonstrate knowledge of specimen differentiation and procedure interference's.
	32.02.01.8	Perform communication skills specifically related to laboratory science.
	32.02.01.9	Using an artificial arm, perform venipunctures.
	32.02.01.10	Name and discuss the specialty areas within laboratory (hematology, clinical chemistry, microbiology, etc.)
	32.02.01.11	Explain the criteria set forth in CLIA to classify laboratory testing as waived, moderate complexity or high complexity.
	32.02.01.12	Explain the levels and qualifications for testing personnel as set forth in CLIA (complexity based) and as established by state law (licensure categories).
	32.02.01.13	Practice and demonstrate how to properly and safely use a microscope.
32.03	If unlicensed physical restorative type skills are to be taught, students will be able to:	
	32.03.01.1	Describe the functions of bones and muscles as related to the practice of physical therapy.
	32.03.01.2	Define disability and identify types of disabilities.
	32.03.01.3	Name and discuss the avenues of physical therapy practice.
	32.03.01.4	Describe equipment used in physical therapy.
	32.03.01.5	Teach crutch and walker use and care.
	32.03.01.6	Perform safe body mechanics and transfer techniques.
	32.03.01.7	Demonstrate an understanding of the use of modalities (i.e. Ultrasound, heat and cold therapeutic massage, E-STEM, wound care, elastic stockings)
	32.03.01.8	Perform hydrotherapy.
	32.03.01.9	Perform communication skills specifically related to physical therapy.
	32.03.01.10	Assist clients to eat using prompting techniques.
	32.03.01.11	Identify, describe, and demonstrate the use of adaptive feeding devices.
	32.03.01.12	Identify augmented communication devices and describe the purpose of each.

32.03.01.13	Demonstrate techniques used in active and passive range of motion exercises.
32.03.01.14	Instruct patients in bed/wheelchair mobility activities.
32.03.01.15	Describe the relationship between long-term and short-term goals.
32.04	If unlicensed occupational restorative type skills are to be taught, students will be able to:
32.04.01.1	Describe equipment used in occupational therapy.
32.04.01.2	Make splints.
32.04.01.3	Perform feeding and dressing skills using adaptive equipment.
32.04.01.4	Perform feeding and dressing skills using one hand.
32.04.01.5	Perform communication skills specifically related to occupational therapy.
32.04.01.6	Perform and instruct range of motion exercises.
32.04.01.7	Name and discuss the avenues of physical therapy practice.
32.04.01.8	Train the client in clothing care skills.
32.04.01.9	Train the client in food preparation skills.
32.04.01.10	Train the client in money management skills.
32.05	If unlicensed respiratory restorative type skills are to be taught, students will be able to:
32.05.01.1	Name and discuss the avenues of Respiratory Care Practice.
32.05.01.2	Describe common respiratory diseases (asthma, emphysema, chronic bronchitis, atelectasis) and common medications used to treat respiratory diseases.
32.05.01.3	Recognize normal breath sounds when ausculating the chest with a stethoscope.
32.05.01.4	Assemble and practice using gas reducing and flow regulating equipment
32.05.01.5	Demonstrate and discuss the use of incentive spirometers.
32.05.01.6	Differentiate between various oxygen-delivery devices (nasal cannulas, simple and rebreathing masks, oxyhoods, enclosures.
32.05.01.7	Stock shelves with, process, and perform preventative maintenance on respiratory care equipment.
32.05.01.8	Check emergency equipment assigned to respiratory care.

	32.05.01.9	Demonstrate/discuss the use of postural drainage and percussion.
	32.05.01.10	Discuss and practice the use of the pulse oximeter.
	32.05.01.11	Describe the equipment and use of humidity/aerosol.
32.06	If medical administrative assisting type skills is one of the selected allied health areas to be taught, students will:	
	32.06.01.1	Demonstrate an understanding of basic medical terminology e.g. prefixes, suffixes and root words related to major body systems.
	32.06.01.2	Demonstrate an understanding of straight numerical, alphabetical and terminal digit filing.
	32.06.01.3	Demonstrate computer literacy, keyboarding and retrieval skills.
	32.06.01.4	List procedures for scheduling and referring patients, and handling walk-in emergency patients.
	32.06.01.5	Understand what is required to create and submit a medical bill
	32.06.01.6	Define a Release of Medical Information, Explanation of Benefit, Assignment of Benefit and Electronic Remittance Advice
	32.06.01.7	Develop and understanding of the term HMO and be able to interpret the information contained on the patient's insurance card.
	32.06.01.8	Understand the financial terms and procedures involved in operating a medical office practice, including Income, Expense, Accounts Receivable, Accounts payable, Cash and Accrual Accounting, Write-off Adjustments
	32.06.01.9	Demonstrate computer literacy, keyboarding and retrieval skills.
32.07	If unlicensed radiologic type skills are to be taught, students will:	
	32.07.01.1	Identify the function of a cassette, film, and screen.
	32.07.01.2	Describe how radiation produces an image on film.
	32.07.01.3	Identify the process by which x-ray film is developed.
	32.07.01.4	Process a film through an automatic processor.
	32.07.01.5	Identify anatomical position and terminology related to position (supine, prone, proximal, distal, medial, lateral, superior, inferior, anterior/ventral, and posterior/dorsal).
	32.07.01.6	Identify patient properly (check identification band, etc.)
	32.07.01.7	Explain appropriate exam(s) to the patient.
	32.07.01.8	Perform safe body mechanics and transferring skills of patient onto x-ray table.

32.07.01.9	Position patient for exam(s) (chest, KUB, hand and foot).
32.07.01.10	Position x-ray tube to simulate exposure for exam(s) (chest, KUB, hand and foot).
32.07.01.11	Position patient in supine, prone, lateral, oblique, AP, PA of appropriate part.
32.07.01.12	Use an artificial arm to perform venipuncture.
32.08 If unlicensed electrocardiograph aide type skills are to be taught, students will:	
32.08.01.1	Describe the cardiovascular system.
32.08.01.2	Demonstrate knowledge of, apply and use medical instrumentation modalities.
32.08.01.3	Demonstrate knowledge of the use of electrocardiographic equipment on patients who have special needs and considerations.
32.08.01.4	Perform patient care techniques in the health care facility.
32.08.01.5	Demonstrate knowledge of telemetry application
32.08.01.6	Assist with the patient care of patients undergoing ambulatory monitoring and stress testing.
32.08.01.7	Demonstrate knowledge of patient care of patients with pacemakers and implanted defibrillators.
32.09 If unlicensed phlebotomy aide type skills are to be taught, students will:	
32.09.01.1	Demonstrate accepted professional communication and interpersonal skills of a phlebotomist.
32.09.01.2	Discuss phlebotomy in relation to the health care setting.
32.09.01.3	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist.
32.09.01.4	Recognize and identify collection reagents, supplies, equipment and interfering chemical substances.
32.09.01.5	Demonstrate skills and knowledge necessary to perform phlebotomy.
32.09.01.6	Practice accepted procedures of transporting, accessioning and processing specimens.
32.09.01.7	Practice quality assurance and safety.
32.10 If unlicensed geriatric type skills are to be taught, (for students completing nurse assisting only) students will:	
32.10.01.1	Recognize types of long term care facilities and levels of care.
32.10.01.2	Be familiar with legislation affecting long term care.

	32.10.01.3	Discuss physical and emotional effects of aging and appropriate ways of dealing with them.
	32.10.01.4	Recognize the stages of dementia and the care of residents in each stage.
	32.10.01.5	Discuss reality orientation, reminiscing, and validation therapy.
	32.10.01.6	Describe the effects of aging on nutritional needs.
	32.10.01.7	Provide for the safety of the elderly and chronically ill patient, including prevention of falls, prevention of infections, provision of a safe environment and prompt attendance to patients' needs.
	32.10.01.8	Check integrity of patient's skin condition and take appropriate actions when needed.
	32.10.01.9	Recognize common chronic illnesses and the special care required.
	32.10.01.10	Provide appropriate end of life care.
	32.10.01.11	Describe common medications taken by the elderly and chronically ill, their effects, and side effects.
32.11	If electrocardiograph monitor technician is to be taught, students will:	
	32.11.01.1	Describe the cardiovascular system.
	32.11.01.2	Identify legal and ethical responsibilities of an EKG/ECG monitor tech.
	32.11.01.3	Demonstrate knowledge of, apply and use medical instrumentation modalities.
	32.11.01.4	Recognize normal and abnormal monitoring.
33.0	Successfully complete a clinical rotation in 1-3 major allied health areas.--The student will be able to:	
33.01	Demonstrate skills in the clinical setting as outlined in 32.0.	
33.02	Complete clinical rotations under the supervision of a duly licensed/certified allied health care or nursing professional.	
33.03	Exhibit behavior consistent with the professional ethics required of each of the allied health areas being studied.	

Course Number: MEA0580
Occupational Completion Point: F
Advanced Allied Health Assistant – 100 Hours – SOC Code 31-9099

Students enrolled in this module have completed the Patient Care Assistant and Allied Health Assistant competencies and/or are adding these skills to be a more multi-skilled worker. Students will perform skills representative of one to three areas of allied health care in the laboratory and clinical settings. Major areas of allied health are defined as physical therapy, emergency, radiation, laboratory and respiratory medicine, and occupational therapy. Other areas of health, medicine, dentistry, or veterinary may be included with instructor provided competencies**. Such teacher made competencies must remain at the aide level and not go beyond the scope of practice of unlicensed assistive personnel.**

Invasive procedures that fall into the nursing scope of practice are not to be added. Clinical experience is defined as activities performed in the clinical setting under the supervision of the appropriate health professional. School certificates for this module must be for "Advanced Allied Health Assistant". Specific competencies should be listed on the back of the certificate.	
34.0	Perform additional skills from the previous module which are in the aide level and do not go beyond the scope of practice of unlicensed assistive personnel.
35.0	Successfully complete a clinical rotation in the selected major allied health area.--The student will be able to:
35.01	Demonstrate skills in the clinical setting as outlined in 32.0.
35.02	Complete clinical rotations under the supervision of a duly licensed/certified allied health care or nursing professional.
35.03	Exhibit behavior consistent with the professional ethics required of each of the allied health areas being studied.

Course Number: PRN0094 **Occupational Completion Point: G** **Patient Care Technician – 60 Hours – SOC 31-9099**	
Students enrolled in this module MUST have completed ALL modules in this program. Upon completion they will be prepared as the cross trained unlicensed worker known as the Patient Care Technician (Industry Title).	
36.0	Demonstrate knowledge of organizational and effective team member skills.--The student will be able to:
36.01	Define terms associated with organizational and time management skills.
36.02	Discuss the role of unlicensed assistive personnel (UAP's) in relation to the terms in 36.01.
36.03	Discuss various situations when a Patient Care Technician would utilize organizational skills.
36.04	List the characteristics of an effective team member.
36.05	Discuss the chain of command and characteristics of team member relationships.
36.06	Perform a self evaluation.
37.0	Practice organizational and effective team member skills in a clinical setting.--The student will be able to:
37.01	Demonstrate ways to deal with conflict.
37.02	Demonstrate employability skills specific to patient care technician.
37.03	Demonstrate communication skills that are supportive of team members.
37.04	Demonstrate effective time management skills.
37.05	Give and receive end-of-shift reports to team members.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program also meets the requirements of Home Health Aide as stated in Rules of the Department of Health and Rehabilitative services, Division of Health, Chapter 10D-68 - Minimum Standards for Home Health Agencies.

Please refer to 42CFR§484.36 for the clinical and faculty requirements for the Home Health Aide course.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students who have completed the Health Science Core may articulate to this program. For teacher certification requirements for the remaining modules please check the certification diagram and/or the individual module.

A voluntary Certified Patient Care Technician (CPCT) national Examination is available through the National Healthcare Association:

7500 West 160th Street
Stilwell, Kansas 66085
Phone: 973-605-1881
Toll Free: (800) 499-9092
FAX: (913) 661-6291

Completion of this program should enable the postsecondary student to be given advanced standing in the Practical Nursing program H170605.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the core in another program at any level. However, outcomes 01-11 must be completed before the additional modules in this program. The Core should be

taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Optometric Assisting**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170705
CIP Number	0351180203
Grade Level	30, 31
Standard Length	1080 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2081 Opticians, Dispensing 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 11 Reading: 11

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as optometric assistants or SOC 29-2081 Opticians, Dispensing.

The content includes but is not limited to basic instruction in anatomy and physiology, CPR, Heartsaver, office practices and dispensing of visual devices. Because optometrists now deal with certain drugs, students need knowledge of diagnostic and therapeutic drugs under supervision.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the post-secondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	OPT0720	Foundations of Vision Care	TEC OPTICS 7G OPTOM ASST 7 G	102 hours	31-9099
	OPT0721	Optometric Assistant 1		336 hours	29-2081
B	OPT0722	Optometric Assistant 2		642 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system.
02.0 Demonstrate legal and ethical responsibilities.
03.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
04.0 Demonstrate an understanding of health and vision concepts.
05.0 Demonstrate understanding of a prescription.
06.0 Recognize and practice workplace safety and security procedures.
07.0 Recognize and practice infection control procedures.
08.0 Recognize and respond to emergency situations.
09.0 Apply basic math and science skills.
10.0 Demonstrate an understanding of information technology applications in the vision care office.
11.0 Demonstrate employability skills.
12.0 Demonstrate knowledge of business management techniques.
13.0 Perform delivery of optical devices.
14.0 Demonstrate knowledge of basic ocular anatomy and physiology.
15.0 Report and record patient information.
16.0 Perform and assist in procedures used in visual testing.
17.0 Perform special procedures.
18.0 Demonstrate knowledge of contact lenses.

Florida Department of Education
Student Performance Standards

Program Title: **Optometric Assisting**
PSAV Number: **H170705**

Course Number: OPT0720 **Occupational Completion Point: A** **Foundations of Vision Care – 102 Hours – SOC Code 31-9099**	
01.0	Demonstrate knowledge of the healthcare delivery system. –The student will be able to:
01.01	Recognize social conditions that affect healthcare delivery.
01.02	Recognize victims of various types of abuse and neglect including domestic violence.
01.03	Identify resources to assist victims of abuse and neglect including domestic violence.
02.0	Demonstrate legal and ethical responsibilities. –The student will be able to:
02.01	Differentiate between laws and a code of ethics.
02.02	Describe the composition and scope of practice of the vision care team including OD, MD, COA, LDO, and scribe.
02.03	Discuss the American Optometric Association (AOA) Paraoptometric Code of Ethics.
02.04	Demonstrate knowledge of both doctors' and patients' rights and responsibilities.
02.05	Demonstrate procedures for accurate documentation and record keeping.
02.06	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
02.07	Demonstrate the procedure for properly identifying patients.
02.08	Describe informed consent including implied, verbal, written and need for capacity.
02.09	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
03.0	Demonstrate the ability to communicate and use interpersonal skills effectively. –The student will be able to:
03.01	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
03.02	Demonstrate basic speaking, active listening skills and non-verbal skills.

	03.03	Compose written communication using correct spelling, grammar and formatting.
	03.04	Recognize the importance of courtesy and respect for patients and other healthcare workers including diverse age, cultural, economic, ethnic and religious groups.
04.0	Demonstrate an understanding of health and vision concepts. –The student will be able to:	
	04.01	Identify the major body systems.
	04.02	Identify the medical conditions that affect eye health.
	04.03	Discuss the adverse effects of alcohol, tobacco, and drug use (legal and illegal) as related to eye health
	04.04	Discuss the adverse effects of poor nutrition and diet as related to eye health.
	04.05	Identify the difference between a vision screening and a comprehensive eye exam.
	04.06	Recognize the importance of a comprehensive eye exam.
	04.07	Demonstrate introductory knowledge of the anatomy and physiology of the eye and the vision system.
	04.08	Recognize the difference between a chief complaint and a HPI (History of Present Illness).
	04.09	Identify signs and symptoms that may be sight-threatening to patients.
	04.10	Identify psychological reactions to vision loss including defense mechanisms and grief.
	04.11	Demonstrate knowledge of prefixes, suffixes, and root words in medical and vision terminology.
05.0	Demonstrate understanding of a prescription. - The student will be able to :	
	05.01	Demonstrate knowledge of introduction to refractive error.
	05.02	Identify the reasons contact lenses and eyewear are prescribed and worn.
	05.03	Identify legal requirements of a prescription.
06.0	Recognize and practice workplace safety and security procedures.–The student will be able to:	
	06.01	Utilize Occupational Safety and Health Administration (OSHA) safety procedures to identify safe and unsafe working conditions.
	06.02	Demonstrate the safe use and security of medical equipment and supplies.
	06.03	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	06.04	Demonstrate proper body mechanics to prevent personal injury.

	06.05 Demonstrate fire, safety, disaster and evacuations procedures.
07.0	Recognize and practice infection control procedures. –The student will be able to:
	07.01 Define principles of infection control including standard and transmission-based precautions.
	07.02 Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing to break the chain of infection.
	07.03 Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.
	07.04 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
08.0	Recognize and respond to emergency situations. –The student will be able to:
	08.01 Record vital signs.
	08.02 Describe the legal parameters of the “Good Samaritan” law.
	08.03 Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), and foreign body airway obstruction (FBAO).
09.0	Apply basic math and science skills. –The student will be able to:
	09.01 Interpret data using graphs, charts and tables.
	09.02 Make, use and convert using both traditional and metric units.
	09.03 Demonstrate basic math skills including addition, subtraction, multiplication, division, percentages, and basic algebraic skills.
10.0	Demonstrate an understanding of information technology applications in the vision care office. –The student will be able to:
	10.01 Describe electronic medical technology applications in vision care and how it can be used in vison care.
	10.02 Demonstrate basic computer skills.
	10.03 Type 25 words per minute.
	10.04 Identify methods of secure communication.
	10.05 Perform administrative office skills including faxing and copying.
11.0	Demonstrate employability skills. –The student will be able to:
	11.01 Identify personal traits or attitudes desirable in a member of the healthcare team.
	11.02 Identify appropriate professional standards of healthcare workers.

11.03	Identify characteristics of effective teams and leaders
11.04	Recognize factors and situations that may lead to conflict, and methods for solutions
11.05	Discuss laws governing harassment, labor, and employment
11.06	Identify documents that may be required when applying for a job.
11.07	Write an appropriate resume and cover letter.
11.08	Conduct a job search.
11.09	Complete a job application form correctly.
11.10	Examine possible certifications or licensing in the vision career field for career advancement.

Course Number: OPT0721 **Occupational Completion Point: B** **Optometric Assistant 1 –336 Hours – SOC Code 29-2081**	
12.0	Demonstrate knowledge of business management techniques. --The student will be able to:
12.01	Schedule patients using knowledge of triage.
12.02	Maintain and file patient records.
12.03	Identify common methods of payment for vision and healthcare services.
12.04	Demonstrate knowledge of different kinds of vision and health insurance.
12.05	Demonstrate knowledge of common insurance terminology.
12.06	Obtain insurance authorization online and by telephone.
12.07	Demonstrate an understanding of the procedures to complete and file both electronic and paper third party claims.
12.08	Demonstrate the knowledge of how CPT, ICD, and HCPCS codes are utilized.
12.09	Demonstrate an understanding of billing and collection procedures for current and overdue accounts.
12.10	Practice office supply control.
13.0	Perform delivery of optical devices.--The student will be able to:
13.01	Demonstrate knowledge of lens physics including: 13.01.1 Optical center

	13.01.2 Refraction 13.01.3 Reflection 13.01.4 Dispersion 13.01.5 Index of refraction 13.01.6 Abbe value 13.01.7 Specific gravity 13.01.8 Prism
13.02	Demonstrate knowledge of characteristics of convex and concave lenses.
13.03	Demonstrate knowledge of various lens designs, materials and options.
13.04	Demonstrate basic knowledge of how lenses are made.
13.05	Neutralize the different types of lenses.
13.06	Perform optical math to interpret prescriptions including: 13.06.1 Transposition 13.06.2 True reading power 13.06.3 Intermediate power 13.06.4 Spherical equivalent 13.06.5 Optical cross 13.06.6 Focal length 13.06.7 Combining and splitting prism
13.07	Demonstrate knowledge of frame material and style selections.
13.08	Demonstrate knowledge of needs-based frame and lenses recommendations.
13.09	Assist patients with frame and lens selection.
13.10	Take patient measurements.
13.11	Demonstrate knowledge of the methods used to order spectacle lenses and frames.
13.12	Adjust and repair spectacles.
13.13	Verify lenses according to ANSI standards.
13.14	Dispense spectacles under the proper supervision and within the Optometric Assistant scope of practice.

Course Number: OPT0722 **Occupational Completion Point: B** **Optometric Assistant 2 – 642 Hours – SOC Code 29-2081**	
14.0	Demonstrate knowledge of basic ocular anatomy and physiology. --The student will be able to:
14.01	Demonstrate knowledge of ocular anatomy.
14.02	Demonstrate knowledge of ocular physiology.
14.03	Demonstrate knowledge of pathological and functional disorders of the eye.
14.04	Demonstrate the knowledge of injuries of the eye and recognize sight-threatening emergencies.
14.05	Correlate general health as it relates to ocular health.
15.0	Report and record patient information. --The student will be able to:
15.01	Properly identify patients.
15.02	Take and record patient histories.
15.03	Use appropriate medical and vision care terminology and abbreviations.
15.04	Receive and give oral report of patient's visual status.
15.05	Obtain specified data from patient, family and/or caregiver regarding visual status.
15.06	Communicate knowledge to patient, family and/or caregiver to assist with the plan of care.
16.0	Perform and assist in procedures used in visual testing.--The student will be able to:
16.01	Perform vision screening.
16.02	Measure and record visual acuity.
16.03	Demonstrate knowledge of amplitude of accommodation.
16.04	Measure and record color vision.
16.05	Measure and record stereo acuity.
16.06	Measure and record pupil evaluation.
16.07	Evaluate Ocular motility including: 16.07.1 Extra Ocular Motility 16.07.2 Convergence

	16.07.3 Cover testing 16.07.4 Worth 4 dot
	16.08 Perform eye drop instillation.
	16.09 Describe components of instrumentation used in comprehensive vision evaluation.
	16.10 Demonstrate basic equipment maintenance.
17.0	Perform special procedures.--The student will be able to:
	17.01 Measure and record keratometry.
	17.02 Demonstrate knowledge of various forms of retinal imaging.
	17.03 Measure and record a visual field.
	17.04 Demonstrate knowledge of slit lamp biomicroscope procedures.
	17.05 Demonstrate knowledge of techniques to evaluate tear film.
	17.06 Measure and record intraocular pressure.
	17.07 Demonstrate knowledge of refraction techniques and refractive errors.
	17.08 Demonstrate knowledge of low vision.
	17.09 Demonstrate knowledge of vision therapy.
	17.10 Demonstrate knowledge of diagnostic and therapeutic drugs including knowledge of the color coding system for topical ocular medications.
18.0	Demonstrate knowledge of contact lenses. --The student will be able to:
	18.01 Assist patients with contact lens procedures including: 18.01.1 Insertion and removal 18.01.2 Cleaning and care 18.01.3 Compliance of soft and RGP lenses
	18.02 Demonstrate knowledge of the fitting process for both rigid and soft contact lenses.
	18.03 Demonstrate knowledge of the ordering for both rigid and soft contact lenses.
	18.04 Demonstrate knowledge of the advantages and disadvantages of various contact lens materials and designs.
	18.05 Use selected instruments to verify contact lenses.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Students are prepared to assist in performing tests to determine defects in vision, preparing and fitting eyeglasses and contact lenses, and administering corrective eye exercises and other treatments under the supervision of a person licensed under FL Statutes 458, 459, 463 or 484.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3) (a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Orthopedic Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H170800
CIP Number	0351080605
Grade Level	30, 31
Standard Length	800 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	Ortho Tech 7 G REG NUR Ortho 7 G	90 hours	31-9099
B	PHT0090	Orthopedic Technologist 1		355 hours	29-2099
	PHT0091	Orthopedic Technologist 2		355 hours	

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the health care delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Describe anatomical structure and function of the human body related to the practice of orthopedics.
13.0 Discuss diseases and injuries of the musculoskeletal system and related structures.
14.0 Demonstrate physical assessment of the orthopedic patient.
15.0 Perform routine maintenance of equipment.
16.0 Disinfect and sterilize materials and equipment.
17.0 Demonstrate knowledge of the use of radiology in orthopedic technology.
18.0 Demonstrate ability to apply, adjust, and remove all common orthopedic devices.
19.0 Assist the orthopedic physician with various treatments and procedures.
20.0 Assist the orthopedic surgeon in the operating room using aseptic technique.
21.0 Demonstrate use of exercise, assistive/supportive devices and specialized equipment
22.0 Instruct other healthcare providers, patients and families to perform selected treatment procedures and functional activities.
23.0 Identify architectural barriers.

Florida Department of Education
Student Performance Standards

Program Title: **Orthopedic Technology**
PSAV Number: **H170800**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: PHT0090
Occupational Completion Point: B
Orthopedic Technologist 1 – 355 Hours – SOC Code 21-9099

12.0	Describe anatomical structure and function of the human body related to the practice of orthopedics. – The student will be able to:
12.01	Describe the composition, properties and functions of connective tissue.
12.02	Discuss the generalized functions of the skeletal system.
12.03	Identify the major anatomical structures found in a typical long bone.
12.04	Discuss the microscopic structure of bones and cartilage.
12.05	Explain how bones are formed, grow and remodeled.
12.06	Identify the two major subdivisions of the skeleton and list the bones found in each area.
12.07	List and compare the major types of joints in the body.
12.08	Identify and discuss the structure and function of the three major types of muscle tissue.
12.09	Discuss the microscopic structure of a skeletal muscle.
12.10	Explain muscle stimulation, movement and contraction.

	12.11 Identify the major muscles of the body and their primary function.
	12.12 Discuss the most common types of movement produced by skeletal muscles.
	12.13 Describe the role of tendons and ligaments in the musculoskeletal system.
13.0	Discuss diseases and injuries of the musculoskeletal system. – The student will be able to:
	13.01 Explain the body's general response to injury.
	13.02 Discuss the process of tissue healing.
	13.03 Describe the pathophysiology of connective tissue diseases and degenerative joint disorders.
	13.04 Discuss the assessment and treatment of patients with connective tissue diseases and joint disorders.
	13.05 Identify the various types of joint replacement.
	13.06 Discuss the role of the orthopedic technician in pre and post-operative care and therapy of joint replacement patients.
	13.07 Discuss the common types of strains and sprains and treatment procedures.
	13.08 Classify the different types of bone fractures.
	13.09 Describe the physiological stages that occur in bone healing.
	13.10 Discuss the major complications of fractures, their signs and symptoms and management.
	13.11 Compare the types of medical treatment for fractures including reduction and fixation.
	13.12 Describe common therapeutic measures for fractures including casts, splints, immobilizers, traction, crutches, walkers and canes.
	13.13 Describe specific types of fractures regarding their location in the body.
14.0	Demonstrate physical assessment of the orthopedic patient. – The student will be able to:
	14.01 Interview patient and family in order to obtain a complete history of the patient's complaints/conditions by using effective interviewing techniques.
	14.02 Conduct physical examination of the patient in order to provide pertinent information to the physician by using standard examination techniques.
	14.03 Identify critical elements to include with documentation of physical assessment of the patient.
	14.04 Use correct medical terminology and proper techniques to document orthopedic conditions or complications on the patient's chart.
15.0	Perform routine maintenance of equipment. – The student will be able to:

	15.01 Assemble, inspect, adjust and disassemble orthopedic equipment such as, frames, weights, cables, pulleys and other support devices as needed.
	15.02 Clean, organize, and maintain adequate levels of orthopedic equipment for use.
	15.03 Complete repair order forms for broken equipment.
16.0	Disinfect and sterilize materials and equipment. – The student will be able to:
	16.01 Discuss the principles of infection control, aseptic technique and sterilization.
	16.02 Disinfect used equipment and materials using proper antiseptics and disinfectants.
	16.03 Prepare materials and equipment for sterilization.
17.0	Demonstrate knowledge of the use of radiology in orthopedic technology. – The student will be able to:
	17.01 Discuss the history of radiology and its application in orthopedics.
	17.02 Explain the basics of radiographic image production and the various types of permanent imaging relating to orthopedics.
	17.03 Demonstrate the ability to interpret simple fractures and dislocations on radiographic film.
	17.04 Discuss the role of the orthopedic technologist in obtaining and examining radiographs.

Course Number: PHT0091 **Occupational Completion Point: B** **Orthopedic Technologist 2 – 355 Hours – SOC Code 21-9099**	
18.0	Demonstrate ability to apply, adjust, and remove all common orthopedic devices in order to comply with physician's orders. – The student will be able to:
	18.01 Discuss the different types of materials and their properties used in constructing casts, splints and immobilizers.
	18.02 Identify the various types of upper and lower extremity casts/splints applicable to specific orthopedic conditions requiring treatment.
	18.03 Apply upper extremity cast/splint to patient using accepted casting/splinting practices and techniques.
	18.04 Apply lower extremity cast/splint to patient using accepted casting/splinting practices.
	18.05 Discuss the specific orthopedic conditions associated with torso casts/splints and specialty casts/splints.
	18.06 Apply torso cast/splint to patient using accepted casting/splinting practices and techniques.
	18.07 Apply specialty cast/splint to patient using accepted casting/splinting practices and techniques.

	18.08 Describe the complications associated with casting/splinting.
	18.09 Utilize cast/splint removal equipment to remove casts/splints using accepted practices and techniques.
	18.10 Utilize cast/splint removal equipment to perform specific procedures, using wedging, windowing, and uni/bivalving techniques.
	18.11 Apply orthopedic devices to patient by ensuring proper fit and placement.
	18.12 Apply pre-fabricated orthotics and orthopedic appliances to patient by ensuring proper fit.
19.0	Assist the orthopedic physician with various treatments and procedures. – The student will be able to:
	19.01 Obtain equipment in order to apply traction therapy to patient by selecting appropriate items for the traction apparatus.
	19.02 Demonstrate ability to construct the specific type of traction ordered.
	19.03 Apply traction apparatus to bed in order to prepare for application of skin or skeletal traction by using accepted practices and techniques.
	19.04 Drape, scrub, and assist in the application of skeletal traction therapy using accepted aseptic practices and techniques.
	19.05 Apply skin traction therapy to patient using accepted aseptic practices and techniques.
	19.06 Discuss the various types of traction applicable to specific orthopedic conditions requiring traction.
	19.07 Explain the basic biomechanics of traction therapy.
	19.08 Describe the contraindications associated with traction therapy.
	19.09 Assist in discontinuing traction therapy using accepted practices and techniques.
20.0	Assist the orthopedic surgeon in the operating room using aseptic technique. – The student will be able to:
	20.01 Position, prep, and drape patient in order to prepare patient for surgery.
	20.02 Assist the surgeon by using accepted surgical practices and techniques.
	20.03 Assist the surgeon during reductions by supplying and applying the appropriate materials.
	20.04 Apply and manage post-operative dressing on wounds following aseptic practices and techniques.
21.0	Demonstrate use of exercise, assistive/supportive devices and specialized equipment. – The student will be able to:
	21.01 Describe the benefits of exercise, stretching, conditioning and strength training in rehabilitative therapy.
	21.02 Recognize and assist in exercising techniques used in orthopedic therapy.

	21.03 Discuss, demonstrate and teach the proper use of canes, crutches and walkers.
	21.04 Describe and demonstrate the various types of wheelchairs and their use.
	21.05 Perform safe body mechanics and patient transfer techniques.
	21.06 Define orthotics and state the importance of proper fit.
	21.07 Discuss upper and lower extremity prosthetics in terms of types of amputations and prosthetics available.
	21.08 Identify and find solutions for common problems associated with prosthetic management.
	21.09 Assist and instruct patients in the use of orthotic/prosthetic devices.
22.0	Instruct other healthcare providers, patients and families to perform selected treatment procedures and functional activities. – The student will be able to:
	22.01 Explain specific treatment plans for patients to all parties involved.
	22.02 Describe desired outcomes of selected treatment procedures or functional activities.
	22.03 Detail the types and functions of equipment being used in treatment of patients and their application.
	22.04 Discuss safety issues and proper procedural methods concerning use of orthopedic equipment and treatment protocol.
23.0	Identify architectural barriers. – The student will be able to:
	23.01 Identify environmental factors that are potential architectural barriers.
	23.02 Determine which aspects of the patient's functional level and their ambulatory/mobility equipment are subject to architectural problems.
	23.03 Describe action required to remediate barriers.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

The graduate is prepared to make application for certification as an Orthopaedic Technologist (OTC) by examination to the National Board for Certification of Orthopaedic Technologists (NBCOT).

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Responder**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H171500
CIP Number	0351081000
Grade Level	30,31
Standard Length	190 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The content includes but is not limited to planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues. Clinical learning experiences are an integral part of this program.

This is an instructional program that prepares individuals to provide initial care to sick or injured persons or as ambulance drivers and attendants SOC 53-3011. An Emergency Medical Responder may use this training for employment. The Emergency Medical Responder is the first to arrive at the scene of an injury but does not have the primary responsibility for treating and transporting the injured person(s). Emergency Medical Responders may include law enforcement, life guard, fire services or basic life support non-licensed personnel who act as part of an organized emergency medical services team.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 2 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G	90 hours	31-9099
B	EMS0050	Emergency Medical Responder	PARAMEDIC @7 7G MED PROF 7 G EMT 7G	100 hours	53-3011

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Demonstrate an understanding of the roles and responsibilities of the Emergency Medical Responder
13.0 Demonstrate an ability to communicate effectively as part of the EMS team.
14.0 Demonstrate an understanding of medicolegal aspects.
15.0 Determine and record vital signs of a sick or injured person.
16.0 Use medical identification devices.
17.0 Conduct a primary assessment of problems that are a threat to life if not corrected immediately.
18.0 Demonstrate BLS procedures
19.0 Recognize and control bleeding.
20.0 Recognize and control shock.
21.0 Understand the importance of emergency medications.
22.0 Demonstrate understanding of airway management, respiration and artificial ventilation.
23.0 Provide secondary assessment.
24.0 Identify musculo-skeletal injuries.
25.0 Demonstrate proper immobilization of an Cervical/Spinal injury
26.0 Demonstrate proper extremity immobilization as well as other immobilization for other injuries (pelvis, ribs)
27.0 Provide emergency evacuation and transfer of a sick and/or injured person.
28.0 Identify and provide initial care for a sick and/or injured patient.
29.0 Identify and care for patients who are in special situations.
30.0 Provide triage to victims of multiple casualty incidents.
31.0 Recognize life-threatening situations.
32.0 Recognize entrapment situations.
33.0 Assist with emergency childbirth.
34.0 Identify critical incident stressors.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Responder**
PSAV Number: **H171500**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

CTE Standards and Benchmarks	
12.0	Demonstrate an understanding of the roles and responsibilities of the Emergency Medical Responder--The student will be able to:
12.01	Describe the role of Emergency Medical Responder as a member of the EMS Team.
12.02	List and describe the responsibilities of the Emergency Medical Responder for the provision of pre-hospital emergency care within the local EMS system.
12.03	Describe principles of safely operating a ground ambulance.
12.04	Understand the guidelines of operating safety in and around a landing zone during air medical operations and transport.
12.05	Implement appropriate Joint Commission patient safety goals.
13.0	Demonstrate an ability to communicate effectively as part of the EMS team--The student will be able to:
13.01	Demonstrate the proper procedure for the transfer of patient care to other EMS personnel.
13.02	Describe information regarding a patient's condition and treatment that need to be communicated.
13.03	Communicate the Emergency Medical Responder's observations and actions to whomever patient care is transferred.
13.04	Describe and apply the principles of communicating with patients in a manner that achieves a positive relationship.
13.05	Recognize simple medical prefixes, suffixes and combining words.

CTE Standards and Benchmarks	
14.0	Demonstrate an understanding of medicolegal aspects–The student will be able to:
14.01	Describe and demonstrate an understanding of the medicolegal aspects of an Emergency Medical Responder's provision of emergency medical care in the jurisdiction having authority, including, but not limited to, duty to act, standard of care, consent to care, forcible restraint, abandonment, documentation and any applicable Good Samaritan Laws.
14.02	Practice within medicolegal standards.
15.0	Determine and record vital signs of a sick or injured person–The student will be able to:
15.01	Determine and record skin color, temperature and moistness.
15.02	Demonstrate ability to accurately measure and record vital signs including manual blood pressure.
16.0	Use medical identification devices–The student will be able to:
16.01	Identify the most commonly used digital medical identification devices.
16.02	Apply the information contained on or in the medical identification devices to patient assessment and patient care procedures.
17.0	Conduct a primary assessment of problems that are a threat to life if not corrected immediately–The student will be able to:
17.01	Determine and record the level of consciousness of the injured person including person, place, time, and events.
17.02	Assess for an inadequate airway, inadequate respiration's, inadequate circulation and profuse bleeding.
17.03	Recognize when immediate correction is necessary.
17.04	Assess patient and determine if the patient has a life threatening condition.
17.05	Use spinal precautions as appropriate
18.0	Demonstrate BLS procedures–The student will be able to:
18.01	Establish and maintain an open airway using both manual and mechanical airway techniques.
18.02	Restore breathing and circulation by means of cardiopulmonary resuscitation (CPR).
18.03	Demonstrate proficiency in the use of an automated external defibrillator (AED).
19.0	Recognize and control bleeding–The student will be able to:
19.01	Identify items that can be used to control external bleeding and minimize the contamination of open wounds.
19.02	Apply pressure dressings that will control bleeding and minimize the contamination of open wounds.

CTE Standards and Benchmarks	
	19.03 Identify the likelihood of internal bleeding through observations of signs, symptoms and mechanisms of injury.
	19.04 Care for a patient who exhibits the signs and symptoms of internal bleeding.
	19.05 Apply current trauma treatment standards when applying a tourniquet which may include PreHospital Trauma Life Support (PHTLS) standards.
20.0	Recognize and control shock–The student will be able to:
	20.01 Recognize the likelihood that shock may occur or be present on the basis of patient assessment and observation of a mechanism of injury.
	20.02 Provide anti-shock measures as a part of routine patient care.
21.0	Understand the importance of emergency medications–The student will be able to:
	21.01 Understand the advantages, disadvantages and techniques of self and peer administration of an intramuscular injection by Auto injector.
	21.02 Describe the names, effects, Indications, routes of administration and dosages for specific medications (I.E Chemical Antidote Auto injector Devices).
22.0	Demonstrate understanding of airway management, respiration and artificial ventilation–The student will be able to:
	22.01 Apply knowledge of Anatomy and Physiology to airway management procedures (I.E. Oxygenation and perfusion)
	22.02 Understand the pathophysiology of respiratory dysfunction.
	22.03 Use available mechanical devices to assure the maintenance of an open airway and assist ventilation according to American Heart Association (AHA) standards.)
	22.04 Demonstrate proficiency in supplemental oxygen therapy including portable oxygen cylinder and oxygen delivery devices.
	22.05 Describe and demonstrate airway management utilizing of upper airway suctioning.
23.0	Provide secondary assessment–The student will be able to:
	23.01 Conduct a methodical head-to-toe physical examination to discover conditions not found during the primary assessment.
	23.02 Interview the sick or injured person to obtain facts relevant to the person's condition.
	23.03 Interview co-workers, witnesses, family members, or other individuals to obtain facts relevant to the person's condition.
24.0	Identify musculo-skeletal injuries–The student will be able to:
	24.01 Identify the various types of musculo-skeletal injuries.
	24.02 Immobilize and otherwise care for suspected fractures, dislocations, sprains and strains with available supplies and equipment,

CTE Standards and Benchmarks	
	including commercially available and improvised devices.
	24.03 Demonstrate an understanding of the function and need for traction splints.
25.0	Demonstrate proper immobilization of an Cervical/Spinal injury–The student will be able to:
	25.01 Identify need for spinal immobilization
	25.02 Maintain in-line immobilization of cervical spine
	25.03 Place proper fitting rigid extrication-type cervical collar
	25.04 Place patient in supine position on full length spine board
	25.05 Secure patient to immobilization device
26.0	Demonstrate proper extremity immobilization as well as other immobilization for other injuries (pelvis, ribs)–The student will be able to:
	26.01 Identify need for extremity immobilization
	26.02 Assesses motor, sensory, and distal circulation in extremities
	26.03 Place proper fitting splint on extremity
	26.04 Reassesses motor, sensory, and distal circulation in extremities
27.0	Provide emergency evacuation and transfer of a sick and/or injured person–The student will be able to:
	27.01 Describe situations when a person should be evacuated or transferred.
	27.02 Use the most appropriate assist, drag or carry (alone or with a partner) to move a sick or injured person from a dangerous location to a safe place.
	27.03 Maintain safety precautions during evacuation and transfer.
	27.04 Demonstrate an understanding of the purpose and use of transfer methods for patients including stair chairs and stretchers.
28.0	Identify and provide initial care for a sick and/or injured patient–The student will be able to:
	28.01 Identify and care for patients with non-traumatic chest pain, utilizing patient assessment.
	28.02 Identify and care for patients experiencing respiratory distress, utilizing patient assessment.
	28.03 Identify and care for patients experiencing a diabetic emergency, utilizing patient assessment.

CTE Standards and Benchmarks	
	28.04 Identify and care for a patient who is experiencing a seizure, utilizing patient assessment.
	28.05 Identify and care for a patient who has ingested, inhaled, absorbed or been injected with a poisonous substance.
	28.06 Identify and care for a patient who is in an altered state of consciousness, utilizing patient assessment.
	28.07 Identify and care for a patient who is experiencing a stroke, utilizing patient assessment.
	28.08 Identify and care for a patient who has a foreign body in the eye, utilizing patient assessment.
	28.09 Identify and care for a patient with thermal, chemical, or electrical burns, determining the severity including degree, body surface area, type, and location.
	28.10 Identify and care for a patient suffering from an environmental emergency including heat cramps, heat exhaustion, heat stroke, and frostbite, utilizing patient assessment.
29.0	Identify and care for patients who are in special situations–The student will be able to:
	29.01 Identify patients who have special needs.
	29.02 Care for injured/ill children.
	29.03 Care for the injured/ill elderly.
	29.04 Care for the injured/ill physically disabled.
	29.05 Care for the injured/ill developmentally disabled.
30.0	Provide triage to victims of multiple casualty incidents–The student will be able to:
	30.01 Categorize the victims of multiple casualty incidents according to the severity of injury or illness on the basis of patient assessments.
	30.02 Use triage tags or other identification devices available locally to indicate priorities for pre-hospital emergency care and transportation to medical facilities.
	30.03 Work as a member of a team to perform triage at locations of multiple casualty incidents.
	30.04 Work as a member of a team to perform patient assessments at locations of multiple casualty incidents.
	30.05 Work as a member of a team to carry out patient care procedures at the locations of multiple casualty incidents.
	30.06 Demonstrate knowledge of the operating procedures during a terrorist event or during a natural or man-made disaster.
	30.07 Demonstrate a basic understanding of the Incident Command System (ICS) implemented by the Federal Emergency Management Agency (FEMA),
	30.08 Discuss and demonstrate Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120

CTE Standards and Benchmarks	
	(q)(6)(i) –First Responder Awareness Level
31.0	Recognize life-threatening situations–The student will be able to:
31.01	Take steps to minimize the chance of injury or death to all involved when confronted with a potentially life-threatening situation on the basis of an assessment of a scene.
32.0	Recognize entrapment situations–The student will be able to:
32.01	Identify accident-related hazards and undertake hazard control measures consistent with the capabilities of the Emergency Medical Responder and available equipment.
32.02	Use available equipment safely to gain access to persons who are entrapped.
32.03	Use available equipment safely to disentangle persons from mechanisms of entrapment.
33.0	Assist with emergency childbirth–The student will be able to:
33.01	Evaluate a mother to determine whether delivery is imminent.
33.02	Assist with a normal delivery.
33.03	Care for the mother and baby.
33.04	Identify abnormal childbirth situations and care for the mother and baby within the Emergency Medical Responder's capabilities.
34.0	Identify critical incident stressors–The student will be able to:
34.01	Identify stressors which may affect the performance of an Emergency Medical Responder.
34.02	Identify stressors which may affect the behavior of a sick or injured person.
34.03	Carry out procedures to minimize critical incident stress.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

In order for students to take the NREMT003 Emergency Medical Responder exam the program must be approved by the National Registry for Emergency Medical Technicians. To receive approval from NREMT each program must be “authorized” by the Bureau of Emergency Medical Services by completing the instructor qualifications form required by Bureau of EMS.

The Emergency Medical Responder instructor shall issue to each student documentation of successful course completion which shall include date of issuance, student's name, name of sponsoring agency (DOE), name of training agency, and instructor's printed name and signature, plus the wording "issued pursuant to section 401.435 F.S." The instructor must also maintain on file following course completion, a roster listing the names of students who successfully completed the course, the dates and location of the course, and the name of the instructor.

The student performance standards for Emergency Medical Responder were adapted and condensed from U. S. Department of Transportation Emergency Medical Services; Emergency Medical Responder Training Course, National Standard Curriculum Instructors Lesson Plan and American Society for Testing and Materials, Committee F-30. Administrators and instructors should refer to these materials for additional details.

This program meets the Department of Health’s education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Mental Health Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	H180100
CIP Number	0351150204
Grade Level	30, 31
Standard Length	480 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2053 Mental Health Technicians 31-1014 Nursing Assistants 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

The purpose of this program is to prepare students for employment as mental health technicians, psychiatric aides or psychiatric technicians (SOC 29-2053 Mental Health Technicians) and nursing assistants (SOC 31-1014 Nursing Assistants). Additional certification and licensure opportunities (i.e. Certified Recovery Peer Specialist, Certified Community Health Worker and Certified Behavioral Health Technician) are noted at the end of the document under **Special Notes.**

The content includes but is not limited to nursing assistant skills, physical assessment, patient teaching and education, wellness and disease concepts, HIV/AIDS, growth and development, mental illness, anxiety, bipolar disorder, depression, schizophrenia, psychosis, personality disorders, emergency and crisis intervention, Alzheimer's Disease and dementia, intellectual developmental disabilities, substance abuse, group therapy, stress management, employability skills, safety and security issues, legal and ethical, therapeutic communication, documentation, clinical skills including hygiene, vital signs and CPR.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3) (b), F.S.

The following table illustrates the post-secondary program structure:

PSAV Program

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	HSC0003	Basic Healthcare Worker	REG NURSE 7 G LPN 7 G* PRAC NURSE @7 %7%G	90 hours	31-9099
B	HCP0121	Nurse Aide and Orderly (articulated)		75 hours	31-1014
C	HCP0810	Mental Health Technician	REG NURSE 7 G	315 hours	29-2053

***The LPN 7 G district issued certification is a practical nurse. A practical nurse can only be utilized as an instructor of the CNA training program when they are supervised by the program coordinator which must be a registered nurse. Please refer to F.A.C. 64B9-15.005 for requirements.**

Regulated Programs

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant in a nursing home, in accordance with Chapter 464.203, Florida Statutes. To be approved, this program must be supervised by a registered nurse and have follow the faculty qualifications set forth in 64B9-15.005 (3) (a) F.A.C.

New programs must be approved by the Board of Nursing, Department of Health prior to enrolling students.

Those students who satisfactorily complete an approved course are eligible to apply to take the national nursing assistant examination being utilized in Florida, in accordance with Chapter 464.203, F.S. This program includes both Acute and Long Term Care.

In accordance with 64B9-15.005 F.A.C., students will perform nursing skills in the clinical and simulated laboratory settings under the supervision of a qualified instructor. The recommended teacher/student ratio in the clinical area is 1 to 12, but the maximum is 1 to 15.

In accordance with 64B9-15.006 F.A.C., Clinical and simulated laboratory learning experiences must correlate with 80 hours of didactic instruction In addition, a minimum of 40 hours clinical experiences must be obtained. Simulated labs are not a substitute for clinical experience. The clinical instruction shall include at least 20 hours of long term care clinical instruction in a licensed nursing home or licensed long term care facility.

In addition, Students must have a minimum of 16 hours of training in communication and interpersonal skills, infection control, safety/emergency procedures, promoting residents' independence, and respecting residents' rights prior to any direct contact with a resident.

According to Section 400.211, F.S., persons who are enrolled in a state approved nursing assistant training program, approved by the department of education, and may be employed by a licensed nursing home for a period of four months. However, the certification requirements must be met within four months of such initial employment.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.
12.0 Use verbal and written communications specific to nurse assisting
13.0 Demonstrate legal and ethical responsibilities specific to nurse assisting
14.0 Perform physical comfort and safety functions specific to nurse assisting
15.0 Provide personal patient care
16.0 Perform patient care procedures
17.0 Apply principles of nutrition
18.0 Provide care for geriatric patients
19.0 Apply the principles of infection control specific to nursing assisting
20.0 Provide biological, psychological, and social support
21.0 Perform supervised organizational functions, following the patient plan of care
22.0 Assist with restorative (rehabilitative) activities
23.0 Perform skills related to the hospital setting (optional)
24.0 Demonstrate and implement knowledge of mental health, mental illness, including substance use/ abuse and addiction.
25.0 Identify the spectrum of interventions and treatment for mental health problems and the types of delivery of care in the stabilization and rehabilitation of the mental health patient.
26.0 Demonstrate an understanding of various mental health disorders, observable signs and symptoms and general interventions to be implemented by the mental health technician.
27.0 Provide therapeutic communication, knowledge of therapeutic relationship, and support for the mental health patient.
28.0 Perform skills and documentation related to caring for and supervising the mental health patient in various types of treatment settings.
29.0 Implement crisis intervention techniques and emergency services if necessary in the mental health setting.
30.0 Participate as a member of a multidisciplinary team in the planning and implementation of care and treatment for individual patients.
31.0 Provide patient education and information on the various resources and support groups available for the mentally ill, substance using or addictive client and family members.

32.0 Conduct individual, group and family presentations / discussions to facilitate patient recovery and wellness.
33.0 Perform pharmacological aspects of care as directed (residential and assisted living facility settings).

Florida Department of Education
Student Performance Standards

Program Title: **Mental Health Technician**
PSAV Number: **H180100**

The **Basic Health Care Worker (HSC0003)** is referred to as the **Health Science Core** and is the first OCP in the majority of the PSAV health science programs. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science program in which it is a part. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training.

PSAV Course Number: HSC0003
Occupational Completion Point: A
Basic Healthcare Worker – 90 Hours – SOC Code 31-9099

To ensure consistency whenever these courses are offered, the health science core standards (1-11) have been placed in a separate document.

Course Number: HCP0121 **Occupational Completion Point: B** **Nurse Aide and Orderly (Articulated) – SOC Code 31-1014**	
12.0	Use verbal and written communications specific to nurse assisting. –The student will be able to:
12.01	Obtain specified data from patient and family.
12.02	Utilize verbal and written information to assist with the patient's plan of care.
12.03	Demonstrate use of the communication system.
13.0	Demonstrate legal and ethical responsibilities specific to nurse assisting. –The student will be able to:
13.01	Demonstrate legal and ethical behavior within the role and scope of nursing assistant responsibilities.
13.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems.)
13.03	Follow policies and procedures affecting the health, safety, and well-being of patients.
13.04	Recognize and report signs of substance abuse.
13.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.

13.06	Follow legal guidelines in documentation.
13.07	Demonstrate methods regarding risk management including prevention and quality of care.
13.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.
13.09	Recognize that a C.N.A. must self-report any crimes they've been involved in within 30 days of the offense in accordance with (FS 456.0727(1) w).
13.10	Discuss Florida certified nursing assistant rules including role limitations.
13.11	Recognize potential for and prevention of medical errors.
13.12	Discuss proper procedures to follow regarding medical errors.
14.0	Perform physical comfort and safety functions specific to nurse assisting. –The student will be able to:
14.01	Maintain patient units and equipment.
14.02	Maintain service areas on the units including supplies and equipment.
14.03	Observe, report, and record changes in the patient's behavior daily, including mental awareness.
14.04	Adjust bed and side-rails.
14.05	Lift, hold, and transfer patients including the use of the various assistive devices and equipment, utilizing proper body mechanics and patient safety measures.
14.06	Turn and position patient.
14.07	Demonstrate the proper use of a gait belt in both transfer and ambulation.
14.08	Transfer patient to stretcher.
14.09	Apply protective devices as directed (e.g., vest and belt).
14.10	Apply comfort devices as directed (e.g., foot-board, overbed cradle, alternating pressure mattress).
14.11	Assist patient to dangle.
14.12	Assist patient in ambulation, including the use of crutch, cane, or walker.
14.13	Assist patient in using wheelchair.
14.14	Assist patient with care and use of prosthetic/orthotic devices.

	14.15 Describe emergency procedures utilized in the clinical area(s).
	14.16 Implement appropriate regulatory and accrediting agency patient safety guidelines.
15.0	Provide personal patient care. --The student will be able to:
	15.01 Give bed bath; observe and report changes in patient including skin and level of consciousness.
	15.02 Administer back rub.
	15.03 Assist with shower or tub bath, including the use of specialty tubs.
	15.04 Assist patient with sink, tub, shower, or bed shampoo.
	15.05 Demonstrate the use of a safety and/or electric razor to shave the patient.
	15.06 Groom patient, including hair, skin, foot, hand and nail care.
	15.07 Assist with and/or administer oral hygiene including denture care.
	15.08 Assist patient with toileting using various types of restorative and rehabilitative equipment.
	15.09 Assist patient to dress.
	15.10 Assist patient with meals.
	15.11 Assist with bowel and bladder training.
	15.12 Assist and/ or provide perineal care.
	15.13 Empty, measure and record urinary output and/or drainage.
	15.14 Assist patient with both donning and doffing prosthesis and brace.
	15.15 Demonstrate application and use of a leg bag, leg strap and dignity bag.
	15.16 Monitor and assist with the drainage of urostomy bags and colostomy bags.
16.0	Perform patient care procedures. –The student will be able to:
	16.01 Demonstrate ability to accurately measure, record and report vital signs.
	16.02 Assist with the admission of a patient and/or resident.
	16.03 Assist with transfer of patient.

16.04	Assist with discharge of patient.
16.05	Make unoccupied/occupied bed.
16.06	Measure and record patient's height and weight.
16.07	Assist patient in passive range-of-motion exercises.
16.08	Apply anti-embolic hose and sequential compression devices.
16.09	Collect, strain, and/or test routine urine specimen.
16.10	Collect timed urine specimen.
16.11	Collect clean-catch (midstream-voided) urine specimen.
16.12	Record fluid intake and output (I&O).
16.13	Observe, record, and report patient's emesis.
16.14	Monitor and provide with care of urinary catheters and drainage systems for both males and females.
16.15	Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.
16.16	Collect stool specimen.
16.17	Perform postmortem care.
16.18	Maintain patient-belongings list.
16.19	Assist the nurse with care of the patient with complex medical needs.
16.20	Assist with the collection of a sputum specimen.
17.0	Apply principles of nutrition. –The student will be able to:
17.01	Identify nutrients and food groups.
17.02	Explain regional, cultural, and religious food references.
17.03	Describe special diets.
17.04	Prepare a basic food plan.
17.05	Check patient's diet tray for accuracy.

	17.06	Demonstrate knowledge of the need for thickened liquids and fluid consistency.
	17.07	Identify methods of maintaining fluid balance including forcing and restricting fluids..
	17.08	Monitor and document Nutritional Intake.
18.0	Provide care for geriatric patients. –The student will be able to:	
	18.01	Identify methods and procedures to prevent pressure ulcers.
	18.02	Identify methods to prevent falls in the elderly.
	18.03	Identify safety principles as related to the elderly.
	18.04	Describe general characteristics, particular needs, and problems of the elderly.
	18.05	Identify attitudes and living habits that promote positive mental and physical health for the elderly.
	18.06	Distinguish between fact and fallacy about the aging process.
	18.07	Identify the need for community resources and services available to the elderly and their family.
	18.08	Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis (Alzheimer's or Dementia).
	18.09	Provide and involve patients in diversional activities.
	18.10	Identify common alterations in elderly patient behavior.
	18.11	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).
	18.12	Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimer's.
	18.13	Demonstrate awareness of common behaviors in drug use and abuse in the elderly.
	18.14	Report concerns to the nurse related to drug use and abuse in the elderly patient.
	18.15	Identify components of the grief process.
	18.16	Demonstrate an understanding of end of life care, hospice and palliative care.
19.0	Apply the principles of infection control specific to nursing assisting. –The student will be able to:	
	19.01	Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.

	19.02 Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.
	19.03 Follow isolation procedure with food tray, garments, and other materials.
	19.04 Collect specimen from patient in isolation.
20.0	Provide biological, psychological, and social support. –The student will be able to:
	20.01 Discuss family roles and their significance to health.
	20.02 Respond to patient and family emotional needs.
21.0	Perform supervised organizational functions, following the patient plan of care. –The student will be able to:
	21.01 Organize patient-care assignments.
	21.02 Complete assignments accurately and in a timely manner.
22.0	Assist with restorative (rehabilitative) activities. –The student will be able to:
	22.01 List the purposes of restorative (rehabilitation) program.
	22.02 Assist patient with specified restorative (rehabilitation) needs.
	22.03 Assist patients/residents to reach the optimum level of independence.
23.0	Perform skills related to the hospital setting (optional). –The student will be able to:
	23.01 Care for hospital equipment and supplies.
	23.02 Transfer patient to stretcher.
	23.03 Assist patient to apply binders.
	23.04 Care for patient in skin and skeletal traction.
	23.05 Assist with pre-operative and post-operative patient care.
	23.06 Reinforce dressings under the supervision of the RN/LPN.
	23.07 Obtain and record an apical pulse.
	23.08 Obtain and record an apical-radial pulse.
	23.09 Obtain and record pedal pulse.

23.10	Provide cast care and/or pin care.
23.11	Provide care for eye glasses, artificial eyes, and contact lens.

Course Number: HCP0810
Occupational Completion Point: C
Mental Health Technician – 315 Hours – SOC Code 29-2053

24.0	Demonstrate and implement knowledge of mental health, mental illness, including substance use/ abuse and addiction. —The student will be able to:
24.01	Define and discuss mental health.
24.02	Define and discuss mental illness and contributing factors.
24.03	Display understanding of The American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders (DSM-5).
24.04	Display awareness of the current trends and issues in the field of mental health i.e. Healthy People 2020 Mental Health Objectives.
24.05	Define and discuss substance use/abuse; addiction; co-occurring disorders and comorbidity.
24.06	Demonstrate knowledge of the 10 classes of drugs with Substance –Related and Addictive Disorders including prevalence, risks, consequences, intoxication and withdrawal. 24.06.01 Alcohol 24.06.02 Caffeine 24.06.03 Cannabis 24.06.04 Hallucinogens 24.06.05 Inhalants 24.06.06 Opioids 24.06.07 Sedatives, Hypnotics and Anxiolytics 24.06.08 Stimulants 24.06.09 Tobacco 24.06.10 Other - synthetic drugs and bath salts
24.07	Implement knowledge of Maslow's hierarchy of needs, physical responses to stress, psychological responses to stress, ego defense mechanisms, stages of grief, and stages of growth and development while caring for the mental health patient.
24.08	Implement knowledge of cultural and spiritual considerations while caring for the mental health patient.
25.0	Identify the spectrum of interventions and treatment for mental health problems and the types of delivery of care in the stabilization and rehabilitation of the mental health patient. -- The student will be able to:
25.01	Display knowledge of prevention programs (i.e. health wellness, stress management, drug education programs, campaigns, parenting programs etc.).

25.02	Display knowledge of early intervention programs.
25.03	Display knowledge of different types of treatment and support including the following: 25.03.01 Inpatient hospitalization: crisis intervention, detoxification, stabilization and case management 25.03.02 partial hospitalization programs 25.03.03 long term care facilities 25.03.04 community mental health centers and developmental disability centers 25.03.05 clinics 25.03.06 residential facilities 25.03.07 mobile outreach units
25.04	Describe and identify the multidisciplinary treatment team members and their roles in the stabilization and rehabilitation of the mental health patient.
25.05	Display knowledge of the chain of command at various treatment settings.
25.06	Describe the difference between an involuntary and voluntary admission.
25.07	Display knowledge of Individual therapy, group therapy, cognitive behavioral therapy, family therapy, education groups, support groups and self- help groups.
25.08	Display knowledge of the process of recovery and relapse prevention.
25.09	Demonstrate knowledge of the various types of complementary and integrative therapies.
25.10	Demonstrate knowledge of pharmacology treatment, side effects and be able to identify patient reactions.
25.11	Demonstrate knowledge of, electroconvulsive therapy (ECT).
26.0	Demonstrate an understanding of various mental health disorders, observable signs and symptoms and general interventions to be implemented by the mental health technician. -- The student will be able to:
26.01	Discuss observable signs and symptoms and demonstrate general interventions to be implemented by the mental health technician for the following: 26.01.01 Anxiety 26.01.02 Obsessive Compulsive Disorder (OCD) 26.01.03 Trauma and Stressor Related Disorders 26.01.04 Substance Use and Addictive Disorders 26.01.05 Schizophrenia and Psychosis 26.01.06 Depression and Suicide 26.01.07 Bipolar 26.01.08 Personality Disorders 26.01.09 Eating Disorders 26.01.10 Neurodevelopment Disorders (i.e. Autism spectrum disorder) and Neurocognitive Disorders (i.e. Dementia)

27.0	Provide therapeutic communication, knowledge of therapeutic relationship, and support for the mental health patient.-- The student will be able to:
	27.01 Ensure quality patient care by developing good rapport and understanding of patient's needs.
	27.02 Display empathy, respect and nonjudgmental attitude to foster trust.
	27.03 Identify self-awareness issues that can enhance or hinder the mental health technician's role in establishing rapport with the mental health patient.
	27.04 Display knowledge and understanding of effective communication by discussing the communication process: (sender, message and receiver).
	27.05 Convey simple, clear and direct communication when speaking with the mental health or developmentally disabled patient.
	27.06 Display good listening skills (show interest and concern, establish eye contact, eliminate distractions etc.) when patient is speaking.
	27.07 Apply knowledge of multicultural considerations while communicating.
	27.08 Demonstrate awareness of the mental health patient's nonverbal cues and behaviors.
	27.09 Display knowledge of therapeutic communication techniques and nontherapeutic communication blocks.
	27.10 Differentiate between direct and open-ended questioning.
	27.11 Demonstrate communication techniques which enable an effective exchange of information, ideas and feelings.
	27.12 Reinforce and acknowledge patient of strengths, resources and that others care.
	27.13 Provide positive feedback for acceptable behaviors.
	27.14 Obtain meaningful information that may require an appropriate nursing intervention.
	27.15 Demonstrate professional relationship and communication with appropriate boundaries.
28.0	Perform skills and documentation related to caring for and supervising the mental health patient in various types of treatment settings. -- The student will be able to:
	28.01 Demonstrate HIPAA, confidentiality, legal and ethical considerations while caring for the mental health patient.
	28.02 Provide safety and security measures for inpatient hospitalization including: 28.02.01 room search 28.02.02 frequent monitoring 28.02.03 suicide and homicide precautions 28.02.04 contraband check 28.02.05 elopement precautions

	28.02.06	crisis intervention
	28.02.07	documentation of the above
28.03	Provide safety and security measures for outpatient and residential facilities and display knowledge of outpatient emergency procedures.	
28.04	Apply knowledge of infection control and blood borne pathogens on the mental health unit and while caring for the mental health patient.	
28.05	Assist, supervise and document the mental health patient's: vital signs, ADL's (activities of daily living: hygiene, bathing, dressing, nutrition and elimination); group attendance; and interactions with staff, patients and visitors.	
28.06	Execute purposeful and productive interactions with patients and staff members.	
28.07	Maintains and adheres to schedule on unit.	
28.08	Maintain a professional atmosphere for a safe and therapeutic environment including respect for boundaries, use of touch, distance zones, set consistent limits especially with manipulative behavior, reports violations and exploitive behaviors immediately.	
28.09	Demonstrate an understanding of subjective and objective observations.	
28.10	Demonstrate observation and documentation skills of patient's verbal and nonverbal communication, changes in thought processes, mood and behavior.	
28.11	Demonstrate the ability to observe and document physical signs and symptoms of patient responses to medications, drug use or change in condition and change in vital signs.	
28.12	Record events accurately and be able to place event in time and sequence	
28.13	Perform a verbal report and communicate to nurse or team leader completely, accurately and immediately re: changes in patient condition, vital signs, mood and behavior.	
28.14	Demonstrate correct documentation procedures and guidelines in regards to format, proper grammar and spelling, appropriate use of medical abbreviations, medical terminology, and types of charting utilized at different facilities.	
29.0	Implement crisis intervention techniques and emergency services if necessary in the mental health setting.—The student will be able to:	
29.01	Discuss the Five-Phase Aggression Cycle: triggering phase, escalation phase, crisis phase, recovery phase and post crisis phase.	
29.02	Demonstrate vigilance in identifying behaviors that will initiate in increase in agitation and notify team members if observed.	
29.03	Assess suicide or homicide potential plan.	
29.04	Access emergency services if necessary.	
29.05	Utilize reality- oriented approach, active listening and attend to immediate needs.	
29.06	Remain with individual who is experiencing panic anxiety.	

29.07	Demonstrate knowledge of de-escalation techniques: calm voice, reduce stimulation, verbal redirect, time out (quiet time-open seclusion) relaxation techniques, distract with positive activity, discuss alternative strategies etc.
29.08	Enforce policies and procedures related to aggressive and destructive behaviors including establishing an understanding of acceptable behaviors with the patient and enforcing rules for unacceptable behaviors.
29.09	Demonstrate knowledge of facility's crisis intervention policy and crisis team to be notified if de-escalation techniques fail,and patient escalates to physical aggression.
29.10	Discuss crisis intervention measures for Inpatient setting including: 29.10.01 "show of force" 29.10.02 locked seclusion 29.10.03 seclusion and restraints 29.10.04 use of prn medications
29.11	Demonstrate knowledge of restraint policy.
29.12	Assist with reintegration of patient to environment when stabilized and is able to participate.
29.13	Demonstrate vigilance in identifying clues of a patient's suicidal intent – both direct and indirect and notify team member in charge.
29.14	Demonstrate knowledge of risk factors for suicide and discuss suicide assessment.
29.15	Recognize self-harm behaviors.
29.16	Discuss methods of suicide
29.17	Discuss suicide ideation.
29.18	Demonstrate knowledge of notifying nurse/person in charge or emergency services if patient communicates suicide plan or describes means to carry out suicide plan.
29.19	Follow facility procedure for suicidal patient and access emergency services if necessary.
29.20	Supervise the safety of a suicidal inpatient by removing all potentially harmful objects and monitoring them closely during meal time, medication administration, bathroom use and activities.
29.21	Demonstrate knowledge of suicide precautions.
29.22	Demonstrate different levels of suicidal precautions as needed including 1:1 contact and constant visual observation, or every 15 minute checks and document.
29.23	Demonstrate knowledge of no harm contract and limitations.
29.24	Encourage client to express honest feelings, including anger.
29.25	Display and communicate that patient has value.

	29.26	Perform room searches as necessary.
30.0	Participate as a member of a multidisciplinary team in the planning and implementation of care and treatment for individual patients.--The student will be able to:	
	30.01	Relate unit problems and needs to the team leader, or head nurse as appropriate.
	30.02	Report violations of patients on unit and assist with issuing consequences.
	30.03	Contribute to the formulation of unit goals for individual patient.
	30.04	Participate in the planning, decision-making through staff meetings.
	30.05	Support hospital and residential policies and procedures as well as the procedure manual for the unit.
	30.06	Display understanding of the limitations of the role of the mental health technician.
	30.07	Display cooperation when asked to change assignments or tasks.
	30.08	Demonstrate ability to function independently without constant supervision.
	30.09	Show respect for coworkers and be able to interpret the organizational chart.
	30.10	Maintain own proper physical, emotional, and mental health through application of proper body mechanics, use of healthy coping mechanisms, ability to have self- awareness skills and seek healthy support when necessary.
	30.11	Promote a healthy interpersonal relationship with peers - show respect and recognition by positive communication.
	30.12	Collaborate with other team members in proper application of the nursing process: (assessment, planning, implementation and evaluation).
	30.13	Accept direction and constructive criticism without becoming defensive.
	30.14	Demonstrate ability to assist and function in various unit capacity: clerical and resident manager roles (i.e. display telephone etiquette, escort patient, order supplies, simple filing & fax, copy machine ability).
31.0	Provide patient education and information on the various resources and support groups available for the mentally ill, substance using or addictive client and family members. –The student will be able to:	
	31.01	Demonstrate and discuss knowledge of local support groups, community mental health centers and developmental disabled centers that provide support and assistance to patients and their families.
	31.02	Demonstrate and discuss knowledge of 12- step program model for recovery.
	31.03	Display knowledge of the various self- help groups and peer assistance programs that can help addicts with recovery and rehabilitation.
	31.04	Demonstrate and discuss knowledge of 12 step self- help groups available for the family members and loved ones of drug addicts and alcoholics.

	31.05	Understand the principles of 12-step program, 12 steps and traditions, anonymity, key slogans and use of sponsor.
	31.06	Demonstrate and discuss knowledge regarding national and local organizations for mental health and substance use issues such as NAMI, SAMHSA, NIMH, Autism Speaks.org and WRAP (Wellness Recovery Action Plan) for patient and family information.
32.0	Conduct individual, group and family presentations / discussions to facilitate patient recovery and wellness. —The student will be able to:	
	32.01	Demonstrate thorough knowledge and preparation of content and information for subject matter of educational group discussion/presentation as well as be able to state the goal of the presentation/discussion.
	32.02	Display awareness of demographics of group participants (gender, culture, age, socioeconomic etc.); awareness of participant's cognitive and developmental stages, readiness for education on subject and comprehension ability.
	32.03	Demonstrate awareness of group dynamics and group process.
	32.04	Communicate "ground rules" and expectations of the group.
	32.05	Display ability to create and enforce ground rules and appropriate boundaries for group learning and education.
	32.06	Demonstrate effective communication techniques (verbal and nonverbal) and use of possible role play, skits, handouts and creative supplements of content to be discussed or presented. (Assure client safety and know possible "triggers").
	32.07	Display ability to effectively "close "the group or presentation.
	32.08	Demonstrate knowledge of: attendance record, points allocated for attendance and participation.
	32.09	Communicate to counselor or nurse any behaviors or verbalizations of patient that warrant further exploration or immediate attention.
	32.10	Demonstrate ability to document patient attendance and observations in accordance to facility procedures and guidelines.
	32.11	Complete a post group self- analysis of one's own strengths and weaknesses.
	32.12	Assess modifications one would make for future group presentations.
33.0	Perform pharmacological aspects of care as directed (residential and assisted living facility settings). – the student will be able to:	
	33.01	Demonstrate knowledge of 6 Rights of medication administration (right medication, right dose, right patient, right time, right route, and right documentation) and policies.
	33.02	Observe and report side effects of medication.
	33.03	Administer prepackaged medication.
	33.04	Supervise and document patient medication administration.
	33.05	Encourage client to take prescribed medication. Document refusal.
	33.06	Assemble information about properties of medications being administered, their potential side effects.

33.07	Demonstrate knowledge of the client’s rights relating to taking or refusing medication.
33.08	Determine client's medication history from records or family in relation to re-allergic reactions.
33.09	Assure adequate supply and safeguard storage of medications to prevent overdose.
33.10	Assume responsibility for information transfer to/from oncoming shift and communicate concerns or changes to nurse or person in charge.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the health care industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students who are successful completers of the Mental Health Technician program can seek further certification through **The Florida Certification Board (FCB)** for **Certified Recovery Peer Specialist**: (CRPS -A Adult, CRPS-F Family, CRPS-V Veteran); or **Certified Community Health Worker** or **Certified Behavioral Health Technician**, please refer to the FCB for requirements, policies, and procedures. Applicants and certified professionals are individually responsible for ensuring they are following current FCB policy and procedures.

If students in this program are seeking a licensure **(CNA)**, certificate or registration through The Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The length of the Nursing Assistant (articulated) program is 165 hours. Completion of this program should enable the postsecondary student to be given advanced standing in the Patient Care Technician and Patient Care Assistant programs. It also allows successful completers of the Mental Health Technician program to enter the Practical Nursing program at OCP B.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9.0, Language 9.0, and Reading 9.0. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Health Science Core Standards and Benchmarks

PSAV and College Level

The **Health Science Core** is required in the majority of PSAV and College health science programs**.** At the PSAV level, the health science core is offered through Basic Health Care Worker (HSC0003) on page 2 of this document. In college credit programs it is encompassed in standards 1-11 listed on page 8 of this document. Secondary and Postsecondary students completing the health science core will not have to repeat the core in any other health science programs in which it is a part of. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

Outcomes 01-11 are referred to as the Health Science Core and do not have to be completed if the student has previously completed the Core in another health occupations program at any level. The Core should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
03.0 Demonstrate legal and ethical responsibilities.
04.0 Demonstrate an understanding of and apply wellness and disease concepts.
05.0 Recognize and practice safety and security procedures.
06.0 Recognize and respond to emergency situations.
07.0 Recognize and practice infection control procedures.
08.0 Demonstrate an understanding of information technology applications in healthcare.
09.0 Demonstrate employability skills.
10.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
11.0 Apply basic math and science skills.

Florida Department of Education
Student Performance Standards

PSAV /ATD	
Program Number	Identified in the program in which the course is associated.
CIP Number	Identified in the program in which the course is associated.
Grade Level	30, 31
Standard Length	90 Clock hours
Teacher Certification	Identified in the program in which the course is associated.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Identified in the program in which the course is associated.

When offered as a PSAV certificate or ATD clock hour program, the following course encompasses the health science core:

PSAV Course Number: HSC0003 **Occupational Completion Point: A** **Basic Healthcare Worker – 90 Hours – SOC Code 31-9099**	
01.0	Demonstrate knowledge of the healthcare delivery system and health occupations–The student will be able to:
01.01	Identify the basic components of the healthcare delivery system including public, private, government and non-profit.
01.02	Identify common methods of payment for healthcare services.
01.03	Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.
01.04	Describe the composition and functions of a healthcare team.
01.05	Identify the general roles and responsibilities of the individual members of the healthcare team.
01.06	Identify the roles and responsibilities of the consumer within the healthcare delivery system.
01.07	Identify characteristics of effective teams.

	01.08	Recognize methods for building positive team relationships.
	01.09	Analyze attributes and attitudes of an effective leader.
	01.10	Recognize factors and situations that may lead to conflict.
	01.11	Demonstrate effective techniques for managing team conflict.
	01.12	Describe factors that influence the current delivery system of healthcare.
	01.13	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:	
	02.01	Develop basic speaking and active listening skills.
	02.02	Develop basic observational skills and related documentation strategies in written and oral form.
	02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
	02.04	Respond to verbal and non-verbal cues.
	02.05	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writing.
	02.06	Use appropriate medical terminology and abbreviations.
	02.07	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
	02.08	Recognize the importance of patient/client educations regarding healthcare.
	02.09	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
	02.10	Analyze elements of communication using a sender-receiver model.
	02.11	Distinguish between and report subjective and objective information.
	02.12	Report relevant information in order of occurrence.
03.0	Demonstrate legal and ethical responsibilities–The student will be able to:	
	03.01	Discuss the legal framework of the healthcare occupations including scope of practice legislation.

	03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03	Demonstrate procedures for accurate documentation and record keeping.
	03.04	Interpret healthcare facility policy and procedures.
	03.05	Explain the “Patient’s Bill of Rights”.
	03.06	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	03.07	Describe advance directives.
	03.08	Describe informed consent.
	03.09	Explain the laws governing harassment, labor and employment.
	03.10	Differentiate between legal and ethical issues in healthcare.
	03.11	Describe a code of ethics consistent with the healthcare occupation.
	03.12	Identify and compare personal, professional, and organizational ethics.
	03.13	Recognize the limits of authority and responsibility of health care workers including legislated scope of practice
	03.14	Recognize and report illegal and/or unethical practices of healthcare workers.
	03.15	Recognize and report abuse including domestic violence and neglect.
	03.16	Distinguish among the five schedules of controlled substances.
04.0	Demonstrate an understanding of and apply wellness and disease concepts–The student will be able to:	
	04.01	Describe strategies for prevention of diseases including health screenings and examinations.
	04.02	Identify personal health practices and environmental factors which affect optimal function of each of the major body systems.
	04.03	Identify psychological reactions to illness including defense mechanisms.
	04.04	Identify complementary and alternative health practices.
	04.05	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.
	04.06	Explain the basic concepts of positive self-image, wellness and stress.

	04.07	Develop a wellness and stress control plan that can be used in personal and professional life.
	04.08	Explore and utilize the U.S. Department of Agriculture's nutrition resources.
	04.09	Recognize the steps in the grief process.
05.0	Recognize and practice safety and security procedures–The student will be able to:	
	05.01	Recognize safe and unsafe working conditions and report safety hazards.
	05.02	Demonstrate the safe use of medical equipment.
	05.03	Explain and apply the theory of root- cause analysis.
	05.04	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	05.05	Identify and practice security procedures for medical supplies and equipment.
	05.06	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.
	05.07	Recognize Safety Data Sheets and comply with safety signs, symbols and labels.
	05.08	Demonstrate proper body mechanics and ergonomics.
	05.09	Demonstrate the procedure for properly identifying patients.
	05.10	Demonstrate procedures for the safe transport and transfer of patients.
	05.11	Describe fire, safety, disaster and evacuations procedures.
	05.12	Discuss The Joint commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.
06.0	Recognize and respond to emergency situations–The student will be able to:	
	06.01	Record and monitor vital signs.
	06.02	Describe legal parameters relating to the administration of emergency care.
	06.03	Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
	06.04	Recognize adverse drug related emergencies and take appropriate first aid action.
07.0	Recognize and practice infection control procedures–The student will be able to:	

	07.01	Define principles of infection control including standard and transmission based precautions.
	07.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.
	07.03	Demonstrate knowledge of surgical asepsis.
	07.04	Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.
08.0	Demonstrate an understanding of information technology applications in healthcare–The student will be able to:	
	08.01	Describe technology applications in healthcare.
	08.02	Define terms and demonstrate basic computer skills.
	08.03	Recognize technology applications in healthcare.
	08.04	Interpret information from electronic medical documents.
	08.05	Identify methods of communication to access and distribute data such as fax, e-mail and internet.
09.0	Demonstrate employability skills–The student will be able to:	
	09.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	09.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	09.03	Identify documents that may be required when applying for a job.
	09.04	Write an appropriate resume.
	09.05	Conduct a job search.
	09.06	Complete a job application form correctly.
	09.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	09.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	09.09	Identify acceptable work habits.
	09.10	Recognize appropriate affective/professional behavior.
	09.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support

		services and biotechnology research and development).
10.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS–The student will be able to:	
	10.01	Recognize emerging diseases and disorders.
	10.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	10.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
	10.04	Identify "at risk" behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	10.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	10.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.
11.0	Apply basic math and science skills–The student will be able to:	
	11.01	Draw, read, and report on graphs, charts and tables.
	11.02	Measure time, temperature, distance, capacity, and mass/weight.
	11.03	Make, use and convert using both traditional and metric units.
	11.04	Make estimations and approximations and judge the reasonableness of the result.
	11.05	Convert from regular to 24 hour time.
	11.06	Demonstrate ability to evaluate and draw conclusions.
	11.07	Organize and communicate the results obtained by observation and experimentation.
	11.08	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
	11.09	Calculate ratios.

Florida Department of Education
Student Performance Standards

AS / CCC / ATD	
CIP Number	Identified in the program in which the course is associated.
Program Type	College Credit
Standard Length	Identified in the program in which the course is associated.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

When offered as college credit, Standards 1-11 encompasses the health science core:

01.0	Demonstrate knowledge of the healthcare delivery system and health occupations–The student will be able to:
01.01	Identify the basic components of the healthcare delivery system including public, private, government and non-profit.
01.02	Identify common methods of payment for healthcare services.
01.03	Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.
01.04	Describe the composition and functions of a healthcare team.
01.05	Identify the general roles and responsibilities of the individual members of the healthcare team.
01.06	Identify the roles and responsibilities of the consumer within the healthcare delivery system.
01.07	Identify characteristics of effective teams.
01.08	Recognize methods for building positive team relationships.
01.09	Analyze attributes and attitudes of an effective leader.
01.10	Recognize factors and situations that may lead to conflict.
01.11	Demonstrate effective techniques for managing team conflict.
01.12	Describe factors that influence the current delivery system of healthcare.

	01.13	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.
02.0	Demonstrate the ability to communicate and use interpersonal skills effectively–The student will be able to:	
	02.01	Develop basic speaking and active listening skills.
	02.02	Develop basic observational skills and related documentation strategies in written and oral form.
	02.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
	02.04	Respond to verbal and non-verbal cues.
	02.05	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writing.
	02.06	Use appropriate medical terminology and abbreviations.
	02.07	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
	02.08	Recognize the importance of patient/client educations regarding healthcare.
	02.09	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.
	02.10	Analyze elements of communication using a sender-receiver model.
	02.11	Distinguish between and report subjective and objective information.
	02.12	Report relevant information in order of occurrence.
03.0	Demonstrate legal and ethical responsibilities–The student will be able to:	
	03.01	Discuss the legal framework of the healthcare occupations including scope of practice legislation.
	03.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.
	03.03	Demonstrate procedures for accurate documentation and record keeping.
	03.04	Interpret healthcare facility policy and procedures.
	03.05	Explain the “Patient’s Bill of Rights”.
	03.06	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).

	03.07	Describe advance directives.
	03.08	Describe informed consent.
	03.09	Explain the laws governing harassment, labor and employment.
	03.10	Differentiate between legal and ethical issues in healthcare.
	03.11	Describe a code of ethics consistent with the healthcare occupation.
	03.12	Identify and compare personal, professional, and organizational ethics.
	03.13	Recognize the limits of authority and responsibility of health care workers including legislated scope of practice
	03.14	Recognize and report illegal and/or unethical practices of healthcare workers.
	03.15	Recognize and report abuse including domestic violence and neglect.
	03.16	Distinguish among the five schedules of controlled substances.
04.0	Demonstrate an understanding of and apply wellness and disease concepts–The student will be able to:	
	04.01	Describe strategies for prevention of diseases including health screenings and examinations.
	04.02	Identify personal health practices and environmental factors which affect optimal function of each of the major body systems.
	04.03	Identify psychological reactions to illness including defense mechanisms.
	04.04	Identify complementary and alternative health practices.
	04.05	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.
	04.06	Explain the basic concepts of positive self-image, wellness and stress.
	04.07	Develop a wellness and stress control plan that can be used in personal and professional life.
	04.08	Explore and utilize the U.S. Department of Agriculture’s nutrition resources.
	04.09	Recognize the steps in the grief process.
05.0	Recognize and practice safety and security procedures–The student will be able to:	
	05.01	Recognize safe and unsafe working conditions and report safety hazards.

	05.02 Demonstrate the safe use of medical equipment.
	05.03 Explain and apply the theory of root- cause analysis.
	05.04 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	05.05 Identify and practice security procedures for medical supplies and equipment.
	05.06 Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.
	05.07 Recognize Safety Data Sheets and comply with safety signs, symbols and labels.
	05.08 Demonstrate proper body mechanics and ergonomics.
	05.09 Demonstrate the procedure for properly identifying patients.
	05.10 Demonstrate procedures for the safe transport and transfer of patients.
	05.11 Describe fire, safety, disaster and evacuations procedures.
	05.12 Discuss The Joint commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.
06.0	Recognize and respond to emergency situations–The student will be able to:
	06.01 Record and monitor vital signs.
	06.02 Describe legal parameters relating to the administration of emergency care.
	06.03 Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.
	06.04 Recognize adverse drug related emergencies and take appropriate first aid action.
07.0	Recognize and practice infection control procedures–The student will be able to:
	07.01 Define principles of infection control including standard and transmission based precautions.
	07.02 Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.
	07.03 Demonstrate knowledge of surgical asepsis.
	07.04 Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.
08.0	Demonstrate an understanding of information technology applications in healthcare–The student will be able to:

	08.01	Describe technology applications in healthcare.
	08.02	Define terms and demonstrate basic computer skills.
	08.03	Recognize technology applications in healthcare.
	08.04	Interpret information from electronic medical documents.
	08.05	Identify methods of communication to access and distribute data such as fax, e-mail and internet.
09.0	Demonstrate employability skills–The student will be able to:	
	09.01	Identify personal traits or attitudes desirable in a member of the healthcare team.
	09.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).
	09.03	Identify documents that may be required when applying for a job.
	09.04	Write an appropriate resume.
	09.05	Conduct a job search.
	09.06	Complete a job application form correctly.
	09.07	Examine levels of education, credentialing requirements including licensure and certification, employment opportunities, workplace environments and career growth potential.
	09.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.
	09.09	Identify acceptable work habits.
	09.10	Recognize appropriate affective/professional behavior.
	09.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services and biotechnology research and development).
10.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS–The student will be able to:	
	10.01	Recognize emerging diseases and disorders.
	10.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
	10.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.

	10.04	Identify "at risk" behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.
	10.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
	10.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.
11.0	Apply basic math and science skills–The student will be able to:	
	11.01	Draw, read, and report on graphs, charts and tables.
	11.02	Measure time, temperature, distance, capacity, and mass/weight.
	11.03	Make, use and convert using both traditional and metric units.
	11.04	Make estimations and approximations and judge the reasonableness of the result.
	11.05	Convert from regular to 24 hour time.
	11.06	Demonstrate ability to evaluate and draw conclusions.
	11.07	Organize and communicate the results obtained by observation and experimentation.
	11.08	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.
	11.09	Calculate ratios.

Florida Department of Education
Curriculum Framework

Health Science Core Standards and Benchmarks

Secondary Level

The **Health Science Core** is the first OCP of the majority of secondary health science programs. The two credit core is required as a prerequisite for all programs except for Practical Nursing and Pharmacy Technician and consists of the courses Health Science Anatomy & Physiology (8417100) and Health Science Foundations (8417110). These courses were previously titled Health Science 1 and Health Science 2. Secondary students completing the two required courses will not have to repeat the core in postsecondary. When the recommended sequence is followed, the structure allows students to complete at specified points for employment or remain for advanced training or cross-training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or exit as an occupational completer.

The course Anatomy and Physiology (2000350) or Anatomy and Physiology Honors (2000360) may be substituted for the course Health Science Anatomy & Physiology (8417100).

The course Health Science Anatomy & Physiology (8417100) is designated as an equally rigorous (EQ) science credit.

Secondary – Career Preparatory	
Program Number	Identified in the program in which the course is associated.
CIP Number	Identified in the program in which the course is associated.
Grade Level	9-12, 30, 31
Standard Length	2 credits
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other

Program Structure

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary health core course structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
A	8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G *(See DOE approved list)	1 credit	31-9099	3	EQ
	8417110	Health Science Foundations		1 credit		3	VO

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics, VO= Career and Technical Education)

Academic Alignment Tables

Academic alignment is an ongoing, collaborative effort of professional educators specializing in the fields of science, mathematics, English/language arts, and Career and Technical Education (CTE). This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses. Career and Technical Education courses that have been aligned to the Next Generation Sunshine State Standards for Science and the Florida Standards for Mathematics and English/Language Arts will show the following data: the quantity of academic standards in the CTE course; the total number of standards contained in the academic course; and the percentage of alignment to the CTE course.

Courses	Anatomy/ Physiology Honors	Astronomy Solar/Galactic Honors	Biology 1	Chemistry 1	Earth-Space Science	Environmental Science	Genetics	Integrated Science	Marine Science 1 Honors	Physical Science	Physics 1
8417100	46/87 53%	6/80 8%	52/83 63%	7/69 10%	26/67 39%	8/70 11%	21/69 30%	34/82 41%	9/66 14%	29/74 39%	6/72 8%
8417110	17/87 20%	16/80 20%	32/83 39%	13/69 19%	28/67 42%	15/70 21%	14/69 20%	28/82 34%	18/66 27%	31/74 42%	12/72 17%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Courses	Algebra 1	Algebra 2	Geometry	English 1	English 2	English 3	English 4
8417100	21/67 31%	9/75 12%	18/54 33%	14/46 30%	14/45 31%	#	#
8417110	25/67 37%	15/75 20%	18/54 33%	22/46 48%	22/45 49%	25/45 56%	25/45 56%

** *Alignment pending review* # *Alignment attempted, but no correlation to academic course*

Florida Standards for Technical Subjects

Florida Standards (FS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects are the critical reading and writing literacy standards designed for grade 6 and above. These standards are predicated on teachers of history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. The FS for Mathematical Practices are designed for grades K-12 and describe varieties of expertise that educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

Instructors must incorporate the Florida Standards for Technical Subjects and Mathematical Practices throughout instruction of this CTE program.

Florida Standards for English Language Development (ELD)
English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards 1-27 encompass the Health Science Core:

01.0 Analyze and interpret an overview of the human body, including organization and chemical process.
02.0 Apply correct medical terminology relating to body structure and function within a real-world application.
03.0 Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions.
04.0 Analyze the integumentary system in relation to health and disease.
05.0 Analyze the skeletal system in relation to health and disease.
06.0 Analyze the muscular system in relation to health and disease.
07.0 Analyze the nervous system in relation to health and disease.
08.0 Analyze the endocrine system in relation to health and disease.
09.0 Analyze the cardiovascular/circulatory system in relation to health and disease.
10.0 Analyze the lymphatic and immune systems in relation to health and disease.
11.0 Analyze the respiratory system in relation to health and disease.

12.0 Analyze the digestive system in relation to health and disease.
13.0 Analyze the urinary system in relation to health and disease.
14.0 Analyze the both the male and female reproductive systems in relation to health and disease.
15.0 Identify and explain factors relating to genetics and disease.
16.0 Evaluate and apply the principles of disease transmission and control to real-world scenarios.
17.0 Demonstrate knowledge of the healthcare delivery system and health occupations.
18.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
19.0 Demonstrate legal and ethical responsibilities.
20.0 Demonstrate an understanding of and apply wellness and disease concepts.
21.0 Recognize and practice safety and security procedures.
22.0 Recognize and respond to emergency situations.
23.0 Recognize and practice infection control procedures.
24.0 Demonstrate an understanding of information technology applications in healthcare.
25.0 Demonstrate employability skills.
26.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS.
27.0 Apply basic math and science skills.

Florida Department of Education
Student Performance Standards

Course Title: **Health Science Anatomy & Physiology**
Course Number: **8417100**
Course Credit: **1**

Course Description:

This course is part of the secondary Health Core consisting of a study of the human body, both structurally and functionally with emphasis on the pathophysiology and transmission of disease. Medical terminology is an integral part of the course.

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Equipment and supplies will be provided to enhance these hands-on experiences for students. A minimum of 20% of classroom time will be dedicated to laboratory experiences.

The following Math Florida Standards (MAFS) must be integrated and applied within the context of the Health Science Anatomy & Physiology (8417100) course. These Florida Standards include MAFS.912.F-IF.2.4, MAFS.912.F-IF.3.7, MAFS.912.S-ID.1.3, MAFS.912.S-ID.1.4, MAFS.912.S-ID.2.5 and MAFS.912.S-ID.2.6.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
01.0	Analyze and interpret an overview of the human body, including organization and chemical process–The student will be able to:		
01.01	Evaluate interrelationships of the basic structural and functional organization of the human body including chemical, cellular, tissue and organ systems.	LAFS.910.L.3.4 LAFS.910.L.3.6 LAFS.910.RI.2.4	SC.912.L.14.1
01.02	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.		SC.912.L.18.1
01.03	Examine medical implications of body planes, directional terms, cavities, abdominal regions and quadrants.	LAFS.910.L.3.4 LAFS.910.L.3.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
		LAFS.910.RI.2.4	
	01.04 Discuss the chemical processes that maintain life, including homeostasis, cellular respiration, the role of enzymes as catalysts and the basic concepts of metabolism.	LAFS.910.L.3.4 LAFS.910.L.3.6 LAFS.910.RI.2.4	SC.912.L.18.8 SC.912.L.18.10 SC.912.L.18.12 SC.912.L.18.11
02.0	Apply correct medical terminology relating to body structure and function within a real-world application–The student will be able to:		
	02.01 Evaluate and apply anatomical terminology to describe location of parts or areas of the body and to describe the relation of one part to another.	LAFS.910.L.3.4 LAFS.910.L.3.6 LAFS.910.SL.1.1	
	02.02 Interpret correct medical terminology including roots, prefixes and suffixes to indicate anatomical structures and function.	LAFS.910.L.3.4 LAFS.910.L.3.6 LAFS.910.SL.1.1	
	02.03 Extend medical terminology to real-world applications.	LAFS.910.L.3.4 LAFS.910.L.3.6 LAFS.910.SL.1.1	
03.0	Evaluate cells and tissues microscopically and macroscopically and relate their specialized functions–The student will be able to:		
	03.01 Discuss and describe cell structure and function in healthy tissue.	LAFS.910.W.1.2 LAFS.910.SL.1.1 LAFS.910.SL.2.5	SC.912.L.14.1 SC.912.L.14.2 SC.912.L.14.3 SC.912.L.16.14 SC.912.L.18.8 SC.912.L.18.10
	03.02 Discuss and describe cell structure and function in diseased tissue including how damage to one tissue may impact the function of another tissue.	LAFS.910.W.1.2 LAFS.910.SL.1.1 LAFS.910.SL.2.5	SC.912.L.14.1 SC.912.N.1.1
	03.03 Compare and contrast the four main types of tissue including the interrelationships of tissues.		SC.912.L.14.11 SC.912.L.14.12
	03.04 Discuss the location and function of tissues as it relates to homeostasis.	LAFS.910.W.1.2 LAFS.910.SL.1.1 LAFS.910.SL.2.5	SC.912.L.18.8 SC.912.L.1810

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
		MAFS.912.N-Q.1.3 MAFS.912.N-Q.1.1 MAFS.912.S-ID.1.1	
04.0	Analyze the integumentary system in relation to health and disease–The student will be able to:		
04.01	Apply medical terminology as related to the integumentary system.		
04.02	Discuss and describe the structure and function of the integumentary system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.51
04.03	Demonstrate knowledge of cells and tissues in the integumentary system		
04.04	Identify and analyze common diseases and disorders of the integumentary system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
04.05	Discuss or research health careers related to the integumentary system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
04.06	Demonstrate knowledge of skills related to the integumentary system which may include infection control and hand washing skills.		HE.912.C.1.5
05.0	Analyze the skeletal system in relation to health and disease–The student will be able to:		
05.01	Apply medical terminology as related to the skeletal system.		SC.912.L.14.13 SC.912.L.14.14
05.02	Discuss and describe the structure and function of the skeletal system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.13 SC.912.L.14.14
05.03	Identify and explain major bone markings and their implications.		SC.912.L.14.15
05.04	Identify and explain joints and their implications.		SC.912.L.14.13 SC.912.L.14.14
05.05	Discuss the interrelationship between calcium, hormones, and the skeletal system.		
05.06	Apply knowledge of cells and tissues in the skeletal system.		SC.912.L.14.12
05.07	Identify and analyze common diseases and disorders of the skeletal system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
05.08	Discuss or research health careers related to the skeletal system.	LAFS.910.RI.1.1 LAFS.910.W.3.8	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
		MAFS.912.G-GMD.2.4	
	05.09 Demonstrate knowledge of skills related to the skeletal system which may include range of motion.		
06.0	Analyze the muscular system in relation to health and disease–The student will be able to:		
	06.01 Apply medical terminology as related to the muscular system.		
	06.02 Discuss and describe the structure and function of the muscular system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.20
	06.03 Identify and explain the 3 main types of muscles and their implications.		SC.912.L.14.20
	06.04 Interpret muscle function by examining attachment to bone.		SC.912.L.14.19
	06.05 Discuss the interrelationship between calcium, ions, and the muscular system.		
	06.06 Apply knowledge of cells and tissues in the muscular system.		SC.912.L.14.16
	06.07 List the steps involved in the sliding filament of muscle contraction.		SC.912.L.14.17
	06.08 Describe signal transmission across a myoneural/neuromuscular junction.		SC.912.L.14.18
	06.09 Identify and analyze common diseases and disorders of the muscular system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
	06.10 Discuss or research health careers related to the muscular system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
	06.11 Demonstrate knowledge of skills related to the muscular system which may include isometric and isotonic contractions.		
07.0	Analyze the nervous system in relation to health and disease–The student will be able to:		
	07.01 Apply medical terminology as related to the nervous system.		
	07.02 Discuss and describe the structure and function of the nervous system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.21 SC.912.L.14.24 SC.912.L.14.25 SC.912.L.14.26

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
			SC.912.L.14.27 SC.912.L.14.28 SC.912.L.14.50
	07.03 Identify and explain the interrelatedness of the Central Nervous System (CNS) and Peripheral Nervous System (PNS).		SC.912.L.14.21 SC.912.L.14.24 SC.912.L.14.25 SC.912.L.14.26 SC.912.L.14.27 SC.912.L.14.28
	07.04 Compare and contrast the divisions of the Autonomic Nervous System (ANS).		SC.912.L.14.21 SC.912.L.14.49
	07.05 Apply knowledge of cells and tissues in the nervous system.		SC.912.L.14.24
	07.06 Explain how neurotransmitters help propagate electrical impulses.	LAFS.910.L.3.4 LAFS.910.W.3.7	
	07.07 Describe reflex pathways and their importance.	LAFS.910.SL.1.1 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.2 MAFS.912.S-IC.2.6	SC.912.L.14.23
	07.08 Identify and analyze common diseases and disorders of the nervous system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
	07.09 Discuss or research health careers related to the nervous system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
	07.10 Demonstrate knowledge of skills related to the nervous system which may include recognizing signs and symptoms of a stroke.		
08.0	Analyze the endocrine system in relation to health and disease–The student will be able to:		
	08.01 Apply medical terminology as related to the endocrine system.		
	08.02 Discuss and describe the structure and function of the endocrine system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.29 SC.912.L.14.30 SC.912.L.14.32
	08.03 Compare and contrast endocrine and exocrine glands.		SC.912.L.14.29

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
08.04	Compare and contrast negative and positive feedback loops.		SC.912.L.14.30
08.05	Evaluate the relationship between the endocrine system and homeostasis in health and disease.		SC.912.L.14.30
08.06	Apply knowledge of cells and tissues in the endocrine system.		
08.07	Identify and analyze common diseases and disorders of the endocrine system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
08.08	Discuss or research health careers related to the endocrine system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
08.09	Demonstrate knowledge of skills related to the endocrine system which may include recognizing the signs and symptoms of low blood sugar.		
09.0	Analyze the cardiovascular/circulatory system in relation to health and disease–The student will be able to:	MAFS.912.S-ID.1.3 MAFS.912.F-IF.2.4	
09.01	Apply medical terminology as related to the cardiovascular system.		
09.02	Discuss and describe the structure and function of the cardiovascular system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.41
09.03	Demonstrate knowledge of major blood vessels.		SC.912.L.14.36
09.04	Compare and contrast the structure and function of arteries, veins, and capillaries.		SC.912.L.14.35 SC.912.L.14.36
09.05	Analyze the interdependence between systemic and pulmonary circulation.		SC.912.L.14.36
09.06	Design a map or flow chart depicting the normal pathway of blood flow through the heart.		SC.912.L.14.36
09.07	Design a map or flow chart depicting the normal electrical pathway through the heart.		SC.912.L.14.38
09.08	Apply knowledge of cells and tissues in the cardiovascular system.		
09.09	Demonstrate knowledge of the composition of blood to include formed elements and plasma.		SC.912.L.14.34
09.10	Evaluate ABO blood types and Rh factor.		SC.912.L.14.34
09.11	Predict potential blood donors for a transfusion through the analysis of blood types with ABO and/or Rh compatibility.		SC.912.L.14.34

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
09.12	Identify and analyze common diseases and disorders of the cardiovascular system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.L.14.39 SC.912.N.1.1
09.13	Discuss or research health careers related to the cardiovascular system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
09.14	Demonstrate knowledge of skills related to the cardiovascular system which might include assessing pulse.		SC.912.L.14.38
10.0	Analyze the lymphatic and immune systems in relation to health and disease–The student will be able to:		
10.01	Apply medical terminology as related to the lymphatic and immune systems.		
10.02	Discuss and describe the structure and function of the lymphatic and immune systems across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.42 SC.912.L.14.52
10.03	Validate the importance of the accessory organs (thymus, tonsils, spleen, appendix, Peyer's patch) promoting the effectiveness of the lymphatic and immune system.		SC.912.L.14.52
10.04	Compare and contrast passive and active immunity.		
10.05	Discuss the impact of B cells and T cells on diseases of the immune system.		
10.06	Evaluate and discuss the body's defense mechanisms in relation to common communicable diseases.	LAFS.910.SL.2.4 LAFS.910.SL.2.6	SC.912.L.16.7
10.07	Apply knowledge of cells and tissues in the lymphatic and immune systems.		SC.912.L.14.42 SC.912.L.14.52
10.08	Identify and analyze common diseases and disorders of the lymphatic and immune system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
10.09	Discuss or research health careers related to the lymphatic and immune systems.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
10.10	Demonstrate knowledge of skills related to the lymphatic and immune systems.		
11.0	Analyze the respiratory system in relation to health and disease–The student will be able to:		
11.01	Apply medical terminology as related to the respiratory system.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
11.02	Discuss and describe the structure and function of the respiratory system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.44
11.03	Evaluate the interrelatedness of the cardiovascular and respiratory systems.		
11.04	Apply knowledge of cells and tissues in the respiratory system.		SC.912.L.14.43
11.05	Identify and analyze common diseases and disorders of the respiratory system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
11.06	Discuss or research health careers related to the respiratory system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
11.07	Demonstrate knowledge of skills related to the respiratory system which might include monitoring respirations.		
12.0	Analyze the digestive system in relation to health and disease–The student will be able to:		
12.01	Apply medical terminology as related to the digestive system.		
12.02	Discuss and describe the structure and function of the digestive system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.46
12.03	Apply knowledge of cells and tissues in the digestive system.		SC.912.L.14.45
12.04	Identify and analyze common diseases and disorders of the digestive system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	
12.05	Discuss or research health careers related to the digestive system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
12.06	Demonstrate knowledge of skills related to the digestive system which might include a nutritional self-assessment.		
13.0	Analyze the urinary system in relation to health and disease–The student will be able to:		
13.01	Apply medical terminology as related to the urinary system.		
13.02	Discuss and describe the structure and function of the urinary system across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.47 SC.912.L.14.48
13.03	Justify the interrelatedness of the urinary and cardiovascular system in promoting homeostasis.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
	13.04 Apply knowledge of cells and tissues in the urinary system.		
	13.05 Identify and analyze common diseases and disorders of the urinary system including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
	13.06 Discuss or research health careers related to the urinary system.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
	13.07 Demonstrate knowledge of skills related to the urinary system which may include measuring Intake and Output.		
14.0	Analyze the both the male and female reproductive systems in relation to health and disease–The student will be able to:		
	14.01 Apply medical terminology as related to the each of the male and female reproductive systems.		SC.912.L.14.33
	14.02 Discuss and describe the structure and function of both reproductive systems across the lifespan.	LAFS.910.L.3.6 LAFS.910.SL.2.4	SC.912.L.14.33 SC.912.L.16.13
	14.03 Apply knowledge of cells and tissues of both reproductive systems.		SC.912.L.14.33
	14.04 Identify and analyze common diseases and disorders of both reproductive systems including etiology, prevention, pathology, diagnosis and treatment/rehabilitation.	LAFS.910.L.3.6 LAFS.910.SL.2.4 LAFS.910.W.3.8	SC.912.N.1.1
	14.05 Discuss or research health careers related to both reproductive systems.	LAFS.910.RI.1.1 LAFS.910.W.3.8 MAFS.912.G-GMD.2.4	
	14.06 Demonstrate knowledge of skills related to the reproductive system which may include measuring fetal development and relating it to possible complications.		
15.0	Identify and explain factors relating to genetics and disease–The student will be able to:	MAFS.912.F-IF.3.7 MAFS.912.S-ID.1.3	
	15.01 Analyze DNA and its role in human heredity.	LAFS.910.RI.1.2	SC.912.L.15.14 SC.912.L.16.2 SC.912.L.16.3 SC.912.L.16.5 SC.912.L.16.9 SC.912.N.1.2 HE.912.C.18
	15.02 Describe the role of human genetics in relation to genetic diseases.	LAFS.910.RI.1.2	SC.912.N.1.1 HE.912.C.1.7

CTE Standards and Benchmarks		FS-M/LA	NGSSS-SCI/HE
15.03	Discuss or research current issues related to genetic research.	LAFS.910.RI.1.2 LAFS.910.SL.1.2	SC.912.L.16.10 SC.912.N.1.2
15.04	Explore the relationship between mutation, cell cycle and uncontrolled cell growth that can result in cancer.		SC.912.L.15.14 SC.912.L.15.15 SC.912.L.16.4 SC.912.L.16.8 SC.912.L.16.14
15.05	Explore how environmental factors contribute to an individual's overall wellness and quality of life.		SC.912.L.14.6 SC.912.L.15.14 HE.912.C.1.3
16.0	Evaluate and apply the principles of disease transmission and control to real-world scenarios. –The student will be able to:	MAFS.912.S-ID.1.4 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6	SC.912.L.14.6 SC.912.L.14.30 SC.912.L.14.32 SC.912.L.14.34 SC.912.L.14.35 SC.912.L.14.44 SC.912.L.14.46 SC.912.L.14.49 SC.912.L.14.52 SC.912.L.15.14 SC.912.L.15.15 SC.912.L.16.2 SC.912.L.16.3 SC.912.L.16.4 SC.912.L.16.5 SC.912.L.16.7 SC.912.L.16.8 SC.912.L.16.9 SC.912.L.16.10 SC.912.L.16.14
16.01	Discuss and explain the direct and indirect transmission of disease.	LAFS.910.L.3.5b LAFS.910.L.3.6	
16.02	Discuss and apply the principles of the chain of infection to real-world scenarios.	LAFS.910.SL.2.4 LAFS.910.SL.2.6	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-SCI/HE
16.03 Categorize the common microorganisms affecting the human body.		
16.04 Identify and analyze common diseases caused by microorganisms.		

Florida Department of Education
Student Performance Standards

Course Title: **Health Science Foundations**
Course Number: **8417110**
Course Credit: **1**

Course Description:

This course is part of the Secondary Health Core designed to provide the student with an in depth knowledge of the health care system and associated occupations. Emphasis is placed on communication and interpersonal skills, use of technology, ethics and the development of critical thinking and problem solving skills. Students will also learn first aid skills and demonstrate the measurement of vital signs. Students may shadow professionals throughout the course.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
17.0	Demonstrate knowledge of the health care delivery system and health occupations. – The student will be able to:		SC.912.L.16.10
17.01	Identify the basic components of the health care delivery system including public, private, government and non-profit.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
17.02	Identify common methods of payment for healthcare services.	LAFS.910.RI.1.1 LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	
17.03	Describe the various types of healthcare providers and the range of services available including resources to victims of domestic violence.	LAFS.910.W.1.2 LAFS.910.SL.1.2 LAFS.910.SL.2.4 LAFS.910.SL.2.6 LAFS.1112.SL.1.2	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	LAFS.1112.SL.2.4 LAFS.1112.SL.2.6 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.3	
17.04 Describe the composition and functions of a healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.W.1.2 LAFS.1112.W.3.7	
17.05 Identify the general roles and responsibilities of the individual members of the healthcare team.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.3.7 LAFS.1112.W.1.2 LAFS.1112.RI.1.3 LAFS.1112.RI.1.1	
17.06 Identify the roles and responsibilities of the consumer within the healthcare delivery system.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
17.07 Identify characteristics of effective teams.	LAFS.910.W.1.2 LAFS.910.W.3.7 LAFS.1112.W.1.2 LAFS.1112.W.3.7 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
17.08 Recognize methods for building positive team relationships.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.RI.1.1	
17.09 Analyze attributes and attitudes of an effective leader.	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.RI.1.3	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
17.10	Recognize factors and situations that may lead to conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.SL.1.3 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
17.11	Demonstrate effective techniques for managing team conflict.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.1.3	
17.12	Describe factors that influence the current delivery system of healthcare.	LAFS.910.RI.2.4 LAFS.910.SL.2.4 LAFS.1112.RI.1.1 LAFS.1112.RI.2.4 LAFS.1112.SL.2.4	
17.13	Explain the impact of emerging issues including technology, epidemiology, bioethics and socioeconomics on healthcare delivery systems.	LAFS.910.W.2.5 LAFS.910.W.3.8 LAFS.1112.W.2.5 LAFS.1112.W.3.8 LAFS.1112.RI.1.1 LAFS.1112.SL.1.3 LAFS.1112.SL.2.4	
18.0	Demonstrate the ability to communicate and use interpersonal skills effectively. – The student will be able to:		SC.912.N.1.1
18.01	Develop basic speaking and active listening skills.	LAFS.910.SL.1.1 LAFS.910.SL.2.4 LAFS.910.SL.2.6 LAFS.1112.SL.1.1 LAFS.1112.SL.2.4 LAFS.1112.SL.2.6	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.L.1.1	
18.02	Develop basic observational skills and related documentation strategies in written and oral form.	LAFS.910.SL.2.4 LAFS.910.RI.3.7 LAFS.910.W.3.9 LAFS.910.W.2.4 LAFS.910.SL.2.4 LAFS.910.SL.2.6 LAFS.1112.SL1.1 LAFS.1112.SL.2.4 LAFS.1112.RI.3.7 LAFS.1112.W.3.9 LAFS.1112.W.2.4 LAFS.1112.L.1.1	
18.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.	LAFS.910.SL.1.1 LAFS.910.SL.1.2 LAFS.910.SL.1.3 LAFS.1112.SL.1.1 LAFS.1112.SL.1.2 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
18.04	Respond to verbal and non-verbal cues.	LAFS.910.SL.1.1 LAFS.1112.SL.1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
18.05	Compose written communication using correct spelling, grammar, a formatting and confidentiality and specific formats of letter writing.	LAFS.910.L.1.1 LAFS.910.L.1.2 LAFS.910.W.2.4 LAFS.1112.L.1.1 LAFS.1112.L.1.2 LAFS.1112.W.2.4 LAFS.1112.SL.1.1	
18.06	Use appropriate medical terminology and abbreviations.	LAFS.910.L.3.6 LAFS.1112.L.3.6	
18.07	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.	LAFS1112.SL.1.1 LAFS.1112.SL.1.3 LAFS.1112.L.1.1	
18.08	Recognize the importance of patient/client education regarding healthcare.	LAFS.1112.L.1.1	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.1.1 LAFS.1112.SL.1.3	
18.09	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic and religious groups.	LAFS.910.SL.2.6 LAFS.1112.SL.2.6 LAFS.1112.W.2.5	
18.10	Analyze elements of communication using a sender-receiver model.	LAFS.910.SL.1.1d LAFS.1112.SL.1.1d LAFS.1112.W.2.5 LAFS.1112.RI.1.1	
18.11	Distinguish between and report subjective and objective information.	LAFS.1112.RI.1.1 LAFS.1112.SL.1.1d LAFS.1112.SL.2.4	
18.12	Report relevant information in order of occurrence.	LAFS.910.W.1.2d LAFS.910.SL.2.4 LAFS.1112.W.1.2d LAFS.1112.SL.2.4 LAFS.1112.RI.1.3	
19.0	Demonstrate legal and ethical responsibilities. – The student will be able to:		SC.912.L.16.10 SC.912.N.1.1
19.01	Discuss the legal framework of the healthcare occupations including scope of practice legislation.	LAFS.910.SL.1.1a,b LAFS.910.SL.1.2 LAFS.1112.SL.1.1a,b,d LAFS.1112.SL.1.2 LAFS.1112.W.3.9b	
19.02	Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment and fraud.	LAFS.910.SL.1.1a,b LAFS.910.SL.1.2 LAFS.1112.SL.1.1a,b LAFS.1112.SL.1.2 LAFS.1112.W.3.9b	
19.03	Demonstrate procedures for accurate documentation and record keeping.	LAFS.1112.W.2.6	
19.04	Interpret healthcare facility policy and procedures.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2 LAFS.1112.RI.3.8	
19.05	Explain the “Patient’s Bill of Rights”.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.2 LAFS.1112.RI.3.8	

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
		LAFS.1112.SL.1.1a LAFS.1112.SL.2.4	
19.06	Identify standards of the Health insurance Portability and Accountability Act (HIPAA).	LAFS.910.RI.1.2 LAFS.1112.RI.1.1 LAFS.1112.RI.1.2	
19.07	Describe advance directives.	LAFS.910.W.1.2d LAFS.1112.W.1.2d LAFS.11112.RI.1.1 LAFS.1112.L.3.6	
19.08	Describe informed consent.	LAFS.910.W.1.2d LAFS.1112.W.1.2d LAFS.1112.RI.1.1 LAFS.1112.L.3.6	
19.09	Explain the laws governing harassment, labor and employment.	LAFS.910.RI.1.2 LAFS.910.SL.1.1a LAFS.1112.RI.1.1 LAFS.1112.RI.1.2 LAFS.1112.SL.1.1a LAFS.1112.SL.1.2	
19.10	Differentiate between legal and ethical issues in healthcare.	LAFS.910.RI.3.8 LAFS.1112.SL.1.2 LAFS.1112.RI.3.8	
19.11	Describe a code of ethics consistent with the healthcare occupation.	LAFS.910.W.1.2d LAFS.1112.RI.1.2 LAFS.1112.W.1.2d	
19.12	Identify and compare personal, professional, and organizational ethics.	LAFS.1112.RI.1.3	
19.13	Recognize the limits of authority and responsibility of health care workers including legislated scope of practice.	LAFS.1112.RI.1.1	
19.14	Recognize and report illegal and/or unethical practices of healthcare workers.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
19.15	Recognize and report abuse including domestic violence and neglect.	LAFS.1112.RI.1.1 LAFS.1112.W.2.4 LAFS.1112.SL.2.4	
19.16	Distinguish among the five schedules of controlled substances.	LAFS.910.RI.1.2 LAFS.1112.RI.1.2	
20.0	Demonstrate an understanding of and apply wellness and disease concepts. – The		SC.912.L.14.46

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
	student will be able to:		SC.912.L.14.52 SC.912.L.18.3 SC.912.L.18.4 SC.912.N.2.2 SC.912.N.2.3 SC.912.N.4.2
20.01	Describe strategies for prevention of diseases including health screenings and examinations.	LAFS.910.W.1.3 LAFS.910.SL.2.4 LAFS.910.SL.2.5 LAFS.910.SL.2.6 LAFS.1112.W.1.3 LAFS.1112.SL.2.4 LAFS.1112.SL.2.5 LAFS.1112.RI.1.1	
20.02	Identify personal health practices and environmental factors which affect optimal function of each of the major body systems.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
20.03	Identify psychological reactions to illness including defense mechanisms.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
20.04	Identify complementary and alternative health practices.	LAFS.910.RI.1.2 LAFS.910.RI.2.4 LAFS.1112.RI.1.2 LAFS.1112.RI.2.4 LAFS.1112.RI.3.7 LAFS.1112.SL.1.2	
20.05	Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body and apply safety practices related to these and other high risk behaviors.	LAFS.1112.SL.1.1c	
20.06	Explain the basic concepts of positive self-image, wellness and stress.	LAFS.1112.SL.1.1c	
20.07	Develop a wellness and stress control plan that can be used in personal and	LAFS.1112.W.1.2	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		professional life.	LAFS.1112.W.2.4	
	20.08	Explore and utilize the U.S. Department of Agriculture's nutrition resources.	LAFS.1112.RI.3.8	
	20.09	Recognize the steps in the grief process.		
21.0	Recognize and practice safety and security procedures. – The student will be able to:			SC.912.N.1.1 SC.912.N.1.6
	21.01	Recognize safe and unsafe working conditions and report safety hazards.	LAFS.1112.W.4.10	
	21.02	Demonstrate the safe use of medical equipment.	LAFS.1112.SL.1.1	
	21.03	Explain and apply the theory of root- cause analysis.	LAFS.1112.SL.2.6	
	21.04	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.	LAFS.1112.RI.1.1	
	21.05	Identify and practice security procedures for medical supplies and equipment.	LAFS.1112.RI.3.8	
	21.06	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.	LAFS.1112.SL.2.4	
	21.07	Recognize Safety Data Sheets and comply with safety signs, symbols and labels.	LAFS.1112.RI.3.7	
	21.08	Demonstrate proper body mechanics and ergonomics.	LAFS.1112.SL.2.4	
	21.09	Demonstrate the procedure for properly identifying patients.	LAFS.1112.SL.2.4	
	21.10	Demonstrate procedures for the safe transport and transfer of patients.	LAFS.1112.SL.2.4	
	21.11	Describe fire, safety, disaster and evacuations procedures.	LAFS.1112.L.1.1 LAFS.1112.RI.1.1	
	21.12	Discuss The Joint commission patient safety goals and any other applicable accrediting/regulatory agency guidelines.	LAFS.1112.RI.3.7	
22.0	Recognize and respond to emergency situations. – The student will be able to:			SC.912.N.1.1
	22.01	Record and monitor vital signs.	MAFS.912.N-Q.1.1 MAFS.912-N-Q.1.2 MAFS.912.N-Q.1.3 MAFS.912.S-ID.1.1 MAFS.912.S-IC.2.6	
	22.02	Describe legal parameters relating to the administration of emergency care.	LAFS.1112.L.1.1 LAFS.1112.RI.3.8	
	22.03	Obtain and maintain training or certification on cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.	LAFS.1112.RI.1.1 LAFS.1112.RI.3.7 LAFS.1112.L.3.6 LAFS.1112.SL.1.2	
	22.04	Recognize adverse drug related emergencies and take appropriate first aid action.		

CTE Standards and Benchmarks		FS-M/LA	NGSSS-Sci
23.0	Recognize and practice infection control procedures. – The student will be able to:		SC.912.L.14.6 SC.912.L.14.52 SC.912.L.17.6 SC.912.L.17.14 SC.912.L.17.16
23.01	Define principles of infection control including standard and transmission based precautions.	LAFS.1112.L.3.4a, c	
23.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.	LAFS.1112.L.3.4d LAFS.1112.SL.2.4	
23.03	Demonstrate knowledge of surgical asepsis.	LAFS.1112.L.3.4d LAFS.1112.SL.2.4	
23.04	Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.	LAFS.1112.RI.3.8 LAFS.1112.SL.2.4	
24.0	Demonstrate an understanding of information technology applications in healthcare. – The student will be able to:		SC.912.N.1.1
24.01	Describe technology applications in healthcare.	LAFS.1112.SL.1.2	
24.02	Define terms and demonstrate basic computer skills.	LAFS.1112.L.3.6	
24.03	Recognize technology applications in healthcare.		
24.04	Interpret information from electronic medical documents.	LAFS.1112.SL.2.5 MAFS.912.S-IC.2.6	
24.05	Identify methods of communication to access and distribute data such as fax, e-mail and internet.		
25.0	Demonstrate employability skills. – The student will be able to:		
25.01	Identify personal traits or attitudes desirable in a member of the healthcare team.		
25.02	Exemplify basic professional standards of healthcare workers as they apply to hygiene, dress, language, confidentiality and behavior (i.e. telephone etiquette, courtesy and self-introductions).	LAFS.1112.L.2.3 LAFS.1112.SL.2.6	
25.03	Identify documents that may be required when applying for a job.		
25.04	Write an appropriate resume.	LAFS.1112.W.2.5 LAFS.1112.W.2.6 LAFS.1112.W.3.8	
25.05	Conduct a job search.	LAFS.1112.W.3.8	
25.06	Complete a job application form correctly.	LAFS.1112.W.2.5 LAFS.1112.W.2.6	
25.07	Examine levels of education, credentialing requirements including licensure and	LAFS.1112.W.3.9b	

CTE Standards and Benchmarks			FS-M/LA	NGSSS-Sci
		certification, employment opportunities, workplace environments and career growth potential.		
	25.08	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments and career growth potential.	LAFS.1112.W.3.9b	
	25.09	Identify acceptable work habits.		
	25.10	Recognize appropriate affective/professional behavior.		
	25.11	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services and biotechnology research and development).	LAFS.1112.W.3.8	
26.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS. – The student will be able to:			SC.912.L.14.6 SC.912.L.14.52
	26.01	Recognize emerging diseases and disorders.	MAFS.912.S-IC.1.1 MAFS.912.S-ID.2.5 MAFS.912.S-ID.3.9	
	26.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.	LAFS.1112.RI.1.2 LAFS.1112.RI.3.7	
	26.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.	LAFS.1112.W.3.7	
	26.04	Identify "at risk" behaviors which promote the spread of diseases caused by blood borne pathogens and the public education necessary to combat the spread of these diseases.	LAFS.1112.RI.1.1 MAFS.912.S-IC.1.1 MAFS.912.S-IC.2.6	
	26.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.	LAFS.1112.RI.3.8	
	26.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.	LAFS.1112.RI.3.8	
27.0	Apply basic math and science skills. – The student will be able to:			SC.912.N.1.1
	27.01	Draw, read, and report on graphs, charts and tables.	MAFS.912.S-ID.1.1 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6 MAFS.912.S-IC.2.6 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
	27.02	Measure time, temperature, distance, capacity, and mass/weight.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
	27.03	Make, use and convert using both traditional and metric units.	MAFS.912.N-Q.1.1	

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
	MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.04 Make estimations and approximations and judge the reasonableness of the result.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.05 Convert from regular to 24 hour time.	MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.06 Demonstrate ability to evaluate and draw conclusions.	LAFS.1112.W.3.7 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.07 Organize and communicate the results obtained by observation and experimentation.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4 MAFS.912.N-Q.1.1 MAFS.912.N-Q.1.2 MAFS.912.N-Q.1.3	
27.08 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of such questions.	LAFS.1112.SL.2.4 LAFS.1112.W.2.4	
27.09 Calculate ratios.		

Florida Department of Education
Curriculum Framework

Program Title: **Fire Fighter/ Emergency Medical Technician- Combined**
Program Type: **Career Preparatory**
Career Cluster: **Law, Public Safety, & Security/ Health Science**

PSAV	
Program Number	P430216
CIP Number	0743020312
Grade Level	30, 31
Standard Length	698 Hours
Teacher Certification: OCPs A&B	Refer to the **Program Structure** section.
Teacher Certification: OCPs C & D	Refer to the **Program Structure** section.
CTSO	FPSA and HOSA
SOC Codes (all applicable)	33-2011 Fire Fighters 29-2041 Emergency Medical Technicians and Paramedics 31-9099 Healthcare Support Workers, All Other
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

 # These certifications can only be used for adjunct faculty. Please refer to 64J-1.201 F.A.C. for the EMS instructor qualifications.

Purpose

The purpose of this program is to provide the necessary training required for students to become certified firefighters as well as licensed Emergency Medical Technicians. It is not intended for those who are currently certified/licensed as either firefighters or EMTs. Students wishing to add an additional certification to an existing credential must enroll in either the Fire Fighter I/II program or the Emergency Medical Technician program.

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Law, Public Safety and Security and Health Science career clusters; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S. **(NOTE: Bureau of Fire Standards and Training (BFST) course number system on their frameworks is not the same as SCNS. Ensure to report the FDOE SCNS Course Number.)**

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	FFP0010	Fire Fighter I	FIRE FIGHT @7 7G	206 hours	33-2011
B	FFP0020	Fire Fighter II		192 hours	
C	EMS0110	Emergency Medical Technician	PARAMEDIC @7 7G # EMT 7G # REG NURSE 7 G #EMR MED TE @7 # PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	300 hours	29-2041

Regulated Programs

Fire Fighter Regulation

Pursuant to 633.128, Florida Statutes, the Department of Financial Service, Division of State Fire Marshal, has established training requirements for firefighters and volunteer firefighters. These requirements are implemented by Rule 69A-37.055, Florida Administrative Code. This program is a planned sequence of instruction consisting of two occupational completion points. **(NOTE: The curriculum frameworks are subject to change by the Bureau of Fire Standards and Training (BFST) in accordance with statutory or Florida Administrative Code (F.A.C.) rule changes.)**

EMT Regulation

The EMT component of this combined program prepares students for certification as EMT's in accordance with Chapter 64J of the Florida Administrative Code. The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation (DOT), National EMS Education Standards for EMT. This is the initial level for a career in emergency medical services and the primary prerequisite for paramedic training and certification.

The EMT component of this program meets the Department of Health trauma score card methodologies and Sudden Unexpected Infant Death Syndrome training education requirements. Upon completion of this component, the instructor will provide a certificate to the student verifying that these requirements have been met. Programs may also teach domestic violence and prevention of medical errors education and may choose to provide a certificate to the student verifying that this education has been completed.

Please refer to chapter 401 F.S. for more information on disqualification for the EMT license through the Office of Emergency Medical Services, Department of Health.

The EMT component of this program must be taught by an instructor meeting the qualifications as set forth in 64J-1.0201 FAC.

An American Heart Association or Red Cross certification or equivalent in "professional" Basic Life Support is required of all candidates for entrance into the EMT component of this program.

The Student Performance Standards for Emergency Medical Technician were adapted from the US Department of Transportation (DOT) National EMS Educational Standards for EMT.

Florida Statute 401.2701 requires that the instructor-student ratio should not exceed 1:6. Hospital activity shall include a minimum of 20 hours of supervised clinical supervision, including 10 hours in a hospital emergency department. Clinical activity shall include appropriate patient assessment skills, intervention and documentation relevant to each clinical rotation.

Field internship shall include a competency based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include a minimum of 5 emergency runs resulting in patient care and transport appropriate for the EMT. In addition, the patient care component should include minimum competencies in patient assessment, airway management and ventilation, trauma and medical emergencies.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

Fire Fighter Component

The **Bureau of Fire Standards and Training (BFST)** approved curricula is available at:

Fire Fighter I
Fire Fighter II

Emergency Medical Technician Component

01.0 Demonstration of a simple depth and foundational breadth of EMS systems.
02.0 Demonstration of a simple depth, simple breadth of research and evidence-based decision making.
03.0 Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness.
04.0 Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing.
05.0 Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication.
06.0 Demonstration of a simple depth and simple breadth of the principles of therapeutic communication.
07.0 Demonstration of a fundamental depth, foundational breadth of medical legality and ethics.
08.0 Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
09.0 Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms.
10.0 Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation.
11.0 Demonstrate the application of fundamental knowledge of life span development to patient assessment and management.
12.0 Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care.
13.0 Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency.
14.0 Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT.
15.0 Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT.
16.0 Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT.
17.0 Demonstrate a fundamental depth, foundational breadth of respiration.
18.0 Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation.
19.0 Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.**
20.0 Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations.
21.0 Demonstrate a fundamental depth, foundational breadth of the components of history taking.
22.0 Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment.
23.0 Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT.
24.0 Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations.
25.0 Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints.
26.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups.

27.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups.
28.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups.
29.0 Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups.
30.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups.
31.0 Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups.
32.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups.
33.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups.
34.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
35.0 Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups.
36.0 Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups.
37.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups.
39.0 Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups.
40.0 Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure.
41.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
42.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups.
43.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups.
44.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups.
45.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups.
48.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups.
49.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups.

50.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups.
51.0 Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries.
52.0 Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT.
53.0 Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT.
54.0 Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT.
55.0 Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT.
56.0 Demonstrate a simple depth, simple breadth of management of the patient with special challenges.
57.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
58.0 Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system.
59.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
60.0 Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response.
61.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
63.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Fire Fighter/ Emergency Medical Technician - Combined**
PSAV Number: **P430216**

PSAV Course Number: FFP0010
Occupational Completion Point: A
Fire Fighter I – 206 Hours – SOC Code 33-2011

The **Bureau of Fire Standards and Training (BFST)** approved curricula is available at:

Fire Fighter I

PSAV Course Number: FFP0020
Occupational Completion Point: B
Fire Fighter II – 192 Hours – SOC Code 33-2011

Fire Fighter II

Course Number: EMS0110
Occupational Completion Point: C
Emergency Medical Technician – 300 Hours – SOC Code 29-2041

01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
01.01	Define Emergency Medical Services (EMS) systems.
01.02	Discuss the historical background of the development of the EMS system.
01.03	Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
01.04	Discuss the specific statutes and regulations regarding the EMS system in Florida.
01.05	Discuss vehicle and equipment readiness
01.06	Characterize the EMS system's role in prevention and public education.
01.07	Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.

01.08	Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
01.09	Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
01.10	Define quality improvement and discuss the EMT's role in the process.
01.11	Identify the basics of common methods of payment for healthcare services.
01.12	Analyze attributes and attitudes of an effective leader.
01.13	Demonstrate effective techniques for managing team conflict.
01.14	Describe factors that influence the current delivery system of healthcare.
01.15	Discuss the importance of continuing medical education and skills retention.
01.16	Assess personal attitudes and demeanor that may distract from professionalism.
01.17	Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
02.01	Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
02.02	Explain the importance to assess and treat patients based on evidence based decision making.
02.03	Interpret graphs, charts and tables.
02.04	Measure time, temperature, distance, capacity, and mass/weight.
02.05	Convert and use traditional and metric units.
02.06	Make estimations, approximations and judge the reasonableness of the result.

	02.07	Convert time from a 12 hour format to a 24 hour format
	02.08	Demonstrate ability to evaluate and draw conclusions.
	02.09	Calculate ratios.
	02.10	Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:	
	03.01	Explain the need to determine scene safety.
	03.02	Discuss the importance of body substance isolation (BSI).
	03.03	Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.
	03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
	03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
	03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
	03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
	03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
	03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
	03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
	03.11	State the guidelines for reaching and their application.
	03.12	State the guidelines for pushing and pulling.
	03.13	Discuss patient positioning in common emergency situations.
	03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
	03.15	Define “infectious disease” and “communicable disease.”
	03.16	Describe the routes of transmission for infectious disease.
	03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
	03.18	Explain how immunity to infectious diseases is acquired.

	03.19 Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
	03.20 Describe the components of physical fitness and mental wellbeing.
	03.21 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.22 Develop an awareness of complementary and alternative health practices.
	03.23 Explain the basic concepts of positive self-image, wellness and stress.
	03.24 Develop a wellness and stress control plan that can be used in personal and professional life.
	03.25 Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture's MyPlate food guide.)
	03.26 Identify personal health practices and environmental factors which affect function of each of the major body systems.
	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.

	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:
	05.01 Understand the basic principles of the various types of communications equipment used in EMS
	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.
	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.

	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.
	07.03 Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
	07.04 Discuss the implications for the EMT in patient refusal of care and/or transport.
	07.05 Explain the importance, necessity and legality of patient confidentiality.
	07.06 Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
	07.07 Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
	07.08 Differentiate between civil tort and criminal actions
	07.09 List the elements of negligence and defenses/protections from liability.
	07.10 Discuss the role of the EMT at crime scenes and preservation of evidence.
	07.11 Define ethics and morality and discuss their implication for the EMT.
	07.12 Differentiate between licensure and certification as they apply to EMS.
	07.13 Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
	07.14 Differentiate between the scope of practice and the standard of care as applied to the EMT.
	07.15 Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
	07.16 Describe the appropriate patient management and care techniques in a refusal of care situation.
	07.17 Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
	07.18 Describe the criteria necessary to honor an advance directive.

	07.19 Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
	08.01 Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal 08.01.05 superior 08.01.06 inferior 08.01.07 anterior 08.01.08 posterior 08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
	08.02 Chart the life support chain, aerobic metabolism and anaerobic metabolism.
	08.03 Define anatomy, physiology, pathophysiology and homeostasis.
	08.04 Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
	08.05 Explain cellular anatomy and physiology.
	08.06 Explain cellular respiration.
	08.07 Discuss cell division.
	08.08 Describe the different types of muscle tissues including skeletal, smooth and cardiac.
	08.09 Describe the functions and divisions of the skeletal system including the classifications of bones.

	08.10 Name and identify the location of the bones of the axial and appendicular skeleton.
	08.11 Describe the classification and types of joints.
	08.12 Describe the function of muscles.
	08.13 Identify major muscles of the body
	08.14 Describe the general function of the respiratory system and its structures.
	08.15 Discuss the mechanisms of breathing including: 08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes 08.15.03 Dead space 08.15.04 Lung compliance
	08.16 Explain the diffusion of gases in external and internal respiration.
	08.17 Describe oxygen and carbon dioxide transport in the blood.
	08.18 Describe nervous and chemical mechanisms that regulate Respirations.
	08.19 Discuss respiration and acid-base balance.
	08.20 Describe the composition and function of blood and plasma.
	08.21 Identify and describe the anatomical structures and functions of the cardiovascular system.
	08.22 Discuss the hemodynamics of blood pressure.
	08.23 Discuss the role of nutrition, metabolism and body temperature on body function.
	08.24 Describe the causes, advantages and disadvantages of a fever
	08.25 Discuss the hypothalamus functions as the thermostat in the body
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:
	09.01 Identify medical terminology word parts such as: 09.01.01 root words 09.01.02 prefixes 09.01.03 suffixes 09.01.04 combining forms
	09.02 Correctly utilize medical terminology describing each of the following: 09.02.01 body structures 09.02.02 functions, 09.02.03 conditions and disorders

	09.02.04 body regions 09.02.05 cavities 09.02.06 areas 09.02.07 landmarks	
	09.03 Correctly use medical abbreviations and symbols.	
	09.04 Read and understand basic medical documentation in medical records and medical reports.	
	09.05 Communicate with healthcare professionals utilizing basic medical terminology.	
	09.06 Explain the rationale for using accepted medical terminology correctly.	
10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:	
	10.01 Discuss signs of irreversible death.	
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.	
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.	
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.	
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.	
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.	
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.	
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.	
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:	
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life	
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:	
	12.01 Define public health and explain the goal of the public health field.	

	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology
	12.05 Discuss ways of EMS involvement in injury prevention.
	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:
	13.01 Explain the "six rights" of medication administration and describe how each one related to EMS.
	13.02 Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
	13.03 Describe the difference between a generic medication name and trade name, and provide an example of each.
	13.04 Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
	13.05 Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
	14.01 Discuss the difference between administration versus assistance of patient medications.
	14.02 Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
	15.01 State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication

	15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions 15.01.09 Doses of medications
	15.02 Discuss the forms in which the medications may be found.
	15.03 Demonstrate the steps in properly inspecting each type of medication.
16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.

	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.
	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.
	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:
	17.01 Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02 Describe the oxygenation process
	17.03 Explain both external and internal respiration process
	17.04 Discuss the various pathophysiologies of the respiratory system.
	17.05 Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06 State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07 Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08 Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10 Demonstrate the correct operation of oxygen tanks and regulators.
	17.11 Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12 Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13 Discuss the differences between negative pressure and positive pressure ventilation.

18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:
	18.01 Demonstrate how to artificially ventilate a patient with a pocket mask.
	18.02 Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03 Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.
	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.

	20.03	Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).
	20.04	Discuss and demonstrate methods of assessing the airway and providing airway care.
	20.05	Describe and demonstrate methods used for assessing if a patient is breathing
	20.06	Differentiate between a patient with adequate and inadequate breathing.
	20.07	Distinguish between methods of assessing breathing for all age groups.
	20.08	Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09	Compare the methods of providing airway care in all age groups.
	20.10	Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11	Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12	Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13	Describe when it is appropriate to expose the patient completely
	20.14	Differentiate between critical life-threatening, potentially life- threatening, and non life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:	
	21.01	Determine the chief complaint.
	21.02	Investigate the chief complaint.
	21.03	Describe components of the patient history
	21.04	Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05	Recognize and respond to the feelings patients experience during assessment.
	21.06	Discuss the value of obtaining a family and social history.
	21.07	Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:	
	22.01	Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02	Discuss the components and techniques of the physical exam and skills involved.

	22.03 Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.
	22.04 State the circumstances for performing a rapid assessment.
	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.

	24.05 Explain the rationale of recording additional sets of vital signs.
25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
	25.01 Identify the assessment factors for a patient with a medical complaint including:
	25.01.01 scene safety
	25.01.02 environmental factors
	25.01.03 chief complaint
	25.01.04 non-life threatening conditions
	25.01.05 distracting injuries
	25.01.06 tunnel vision
	25.01.07 patient cooperation
	25.01.08 rescuer attitude
	25.02 Discuss forming a field impression and utilizing available information to determine a differential diagnosis .
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the nervous system.
	26.02 Describe the pathophysiology of the following neurologic disorders: 26.02.01 Altered Mental Status 26.02.02 Stroke 26.02.03 Transient Ischemic Attack 26.02.04 Headache 26.02.05 Seizures 26.02.06 Syncope
	26.03 Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.
	26.04 Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
	26.05 Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
	26.06 Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.
	26.07 Define “altered mental status” and identify the possible causes

	26.08 Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include: 26.08.01 strokes 26.08.02 headaches 26.08.03 seizures 26.08.04 altered mental status
	26.09 Discuss the transport of the stroke patient to the appropriate treatment center.
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	27.01 Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
	27.02 Describe the pathophysiology of the following abdominal and gastrointestinal disorders: 27.02.01 Abdominal Pain 27.02.02 Acute Abdomen 27.02.03 Peritonitis 27.02.04 Appendicitis 27.02.05 Pancreatitis 27.02.06 Cholecystitis 27.02.07 Gastrointestinal bleeding 27.02.08 Esophageal Varicies 27.02.09 Gastroenteritis 27.02.10 Ulcers 27.02.11 Intestinal Obstruction 27.02.12 Hernia 27.02.13 Abdominal Aortic Aneurysm
	27.03 Define the term," acute abdomen."
	27.04 Identify the signs and symptoms, and common causes of an acute abdomen.
	27.05 Define upper and lower gastrointestinal bleeding.
	27.06 Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.
	27.07 Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.
	27.08 Define acute gastroenteritis.
	27.09 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	27.10 Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups. –The student will be able to:

28.01	Define and differentiate allergic reaction and anaphylaxis
28.02	Describe the pathophysiology of the following immunology disorders: 28.02.01 Allergic Reaction 28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
28.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
28.04	State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
28.05	Demonstrate the use of epinephrine auto-injector
28.06	Review the anatomy and physiology of the organs and structures related to anaphylaxis
28.07	Describe the incidence, morbidity and mortality of anaphylaxis.
28.08	Identify the risk factors most predisposing to anaphylaxis.
28.09	Recognize the signs and symptoms related to anaphylaxis
28.10	Describe the prevention of anaphylaxis and appropriate patient education.
28.11	List common antigens most frequently associated with anaphylaxis.
28.12	Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
29.01	List the causes of infectious diseases
29.02	Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus 29.02.07 Multidrug-Resistant Organisms
29.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.

29.04	Discuss mandatory notification to State or Federal agencies of various diseases.
29.05	Identify patients with risk factors for infectious disease.
29.06	Explain the principles and practices of infection control in prehospital care.
29.07	Describe and discuss the rationale for the various types of PPE.
29.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
29.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.
29.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.
29.11	Demonstrate the ability to comply with body substance isolation guidelines.
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:
30.01	Review the anatomy and physiology of the endocrine system and its main function in the body.
30.02	Describe the pathophysiology of the following endocrine disorders: 30.02.01 Insulin Dependent Diabetes Mellitus 30.02.02 Non-Insulin Dependent Diabetes Mellitus 30.02.03 Hypoglycemia 30.02.04 Hyperglycemia 30.02.05 Diabetic Ketoacidosis(DKA) 30.02.06 Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
30.03	Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.
30.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
30.05	State the following for oral glucose: 30.05.01 Generic and trade names 30.05.02 Medication forms 30.05.03 Dose 30.05.04 Administration 30.05.05 Action 30.05.06 Contraindications
30.06	Demonstrate the steps of using a glucometer device and administering oral glucose.
30.07	Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
30.08	Discuss the general assessment findings associated with endocrinologic emergencies.

	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.
	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.
	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.
32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular

	emergencies for all age groups. –The student will be able to:
	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.
33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.

	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning 33.02.02 Carbon Monoxide Poisoning 33.02.03 Cyanide Poisoning 33.02.04 Exposure to Acid or Alkaline Substances 33.02.05 Exposure to Hydrocarbons 33.02.06 Methanol Ingestion 33.02.07 Isopropanol Ingestion 33.02.08 Ethylene Glycol Ingestion 33.02.09 Exposure to Poisonous Plants 33.02.10 Drug Withdrawal 33.02.11 Alcoholic Syndrome 33.02.12 Withdrawal syndrome (including delirium tremens) 33.02.13 Illicit Drug Use 33.02.14 Medication Overdose
	33.03 List various ways that poisons enter the body.
	33.04 List signs/symptoms associated with poisoning.
	33.05 Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.
	33.06 Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
	33.07 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	34.01 Review the basic anatomy and physiology of the respiratory system.
	34.02 Describe the pathophysiology of the following respiratory disorders: 34.02.01 Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma 34.02.02 Pulmonary Edema 34.02.03 Spontaneous Pneumothorax 34.02.04 Hyperventilation Syndrome 34.02.05 Epiglottitis 34.02.06 Pertussis 34.02.07 Cystic Fibrosis 34.02.08 Pulmonary Embolism 34.02.09 Pneumonia 34.02.10 Viral Respiratory Infections 34.02.11 Poisonous Exposures
	34.03 List signs of adequate air exchange.

	34.04 State the signs and symptoms of a patient with respiratory distress.
	34.05 Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.
	34.06 State the following for the metered-dose inhaler: 34.06.01 generic name 34.06.02 medication forms 34.06.03 dose 34.06.04 administration 34.06.05 action 34.06.06 indications 34.06.07 contraindications
	34.07 Describe and demonstrate the steps in facilitating the use of an inhaler.
	34.08 Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.
	34.09 Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.
	34.10 Demonstrate proper use of airway and ventilation devices.
	34.11 Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:
	35.01 Review the anatomy and physiology of blood.
	35.02 Describe the pathophysiology of the following hematology disorders: 35.02.01 Anemia 35.02.02 Sickle Cell Anemia / Sickle Cell Crisis 35.02.03 Hemophilia
	35.03 State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.
	35.04 Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.
	35.05 Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:
	36.01.01 Review the basic anatomy and physiology of the genitourinary and renal systems
	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure

	36.03 Understand the basic principles of kidney dialysis.
	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.
39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
	39.01 Discuss the recognition and management of an epistaxis.
	39.02 Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.

40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
	40.01 Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
	40.02 Discuss and identify causes and pathophysiology of respiratory failure and arrest.
	40.03 Discuss and identify causes and pathophysiology of cardiac failure or arrest.
	40.04 Discuss the various types and degrees of shock.
	40.05 Discuss and identify post resuscitation and management.
	40.06 Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	40.07 Show Provider (AHA guidelines) certification required prior to rescuer program completion.
	40.08 Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
	40.09 Define and differentiate compensated and decompensated hemorrhagic shock.
	40.10 Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
	40.11 Demonstrate how to perform one and two rescuer CPR, adult, child, infant
	40.12 Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
	40.13 Demonstrate the steps of rescuer level appropriate post resuscitative care
	40.14 Management and resuscitation of the critical patient
	40.15 Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
	40.16 Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	41.01 Discuss and define pathophysiology of the trauma patient
	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma. 41.04.01 Define energy, force, laws of motion 41.04.02 Explain the physics of trauma
	41.05 Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to

	occur and include: 41.05.01 Effects of high, medium and low velocity penetrating trauma 41.05.02 Primary, secondary, tertiary and miscellaneous blast injuries 41.05.03 Factors to consider of a patient injured in a fall. 41.05.04 Consider all age groups
41.06	Describe the kinematics of penetrating injuries.
41.07	Discuss the role of documentation in trauma.
41.08	Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.
41.09	Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
41.10	Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)
41.11	Discuss the National Trauma Triage Protocol of injured Patients
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:
42.01	Review the anatomy and physiology of the circulatory system
42.02	Review the different types of bleeding and classes of hemorrhage.
42.03	List signs and symptoms of shock (hypo-perfusion).
42.04	Describe the body's physiologic response to bleeding.
42.05	Review the pathophysiology of hemorrhagic shock.
42.06	Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).
42.07	Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.
42.08	Demonstrate how to apply a commercial tourniquet.
42.09	Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.
43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:
43.01	Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
43.02	Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
43.03	Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion,

	43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	45.01 Review the anatomy and physiology of the musculo-skeletal system.
	45.02 and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains 45.02.03 Strains 45.02.04 Pelvic Injury 45.02.05 Amputation
	45.03 Describe the different types of orthopedic injuries including: 45.03.01 Fractures

	45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard 45.15.02 Improvised 45.15.03 Soft 45.15.04 Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.
46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.

46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries: 46.03.01 wounds 46.03.02 burns 46.03.03 high pressure injection 46.03.04 crush syndrome injuries 46.03.05 compartment syndrome injuries 46.03.06 contusion 46.03.07 hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries: 46.04.01 abrasions 46.04.02 lacerations 46.04.03 major arterial lacerations 46.04.04 avulsions, 46.04.05 bites 46.04.06 impaled objects 46.04.07 amputations 46.04.08 incisions 46.04.09 crush injuries 46.04.10 blast injuries 46.04.11 Penetrations/punctures.
46.05	Identify types of burn injuries, including: 46.05.01 thermal burn 46.05.02 inhalation burn 46.05.03 chemical burn 46.05.04 electrical burn 46.05.05 radiation exposure
46.06	Describe the depth classifications of burn injuries, including: 46.06.01 superficial burn 46.06.02 partial-thickness burn 46.06.03 full-thickness burn 46.06.04 Other depth classifications
46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.
46.09	Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents

	46.10 Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11 Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12 Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13 Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:
	47.01 Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02 Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03 Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04 Recognize and manage life threats due to head, neck and spine trauma.
	47.05 Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06 Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.
48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including: 48.02.01 Increased intracranial pressure (ICP) 48.02.02 Concussion 48.02.03 Contusion
	48.03 Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including: 48.03.01 Brain Trauma 48.03.02 Spinal Cord Trauma 48.03.03 Cervical Spine Trauma

	48.04	Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.
	48.05	Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.
	48.06	Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.
	48.07	Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
	48.08	Demonstrate specific management techniques for a patient with a suspected spinal cord injury.
	48.09	Demonstrate various methods for stabilization and removal of a helmet.
	48.10	Demonstrate documentation of assessment before, during and after spinal motion restriction.
	48.11	Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:	
	49.01	Review the anatomy and physiology for the following trauma patients: 49.01.01 pregnant 49.01.02 pediatric 49.01.03 geriatric 49.01.04 cognitively impaired
	49.02	Discuss the pathophysiology and MOI of trauma in the following patients: 49.02.01 pregnant 49.02.02 pediatric 49.02.03 geriatric 49.02.04 cognitively impaired
	49.03	Discuss and demonstrate unique assessment and management considerations for the following trauma patients: 49.03.01 pregnant 49.03.02 pediatric 49.03.03 geriatric 49.03.04 cognitively impaired
	49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.
50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:	
	50.01	Define drowning and discuss its incidence, rick factors and prevention.
	50.02	Discuss the pathophysiology and MOI of the following: 50.02.01 Drowning and water related incidents 50.02.02 temperature-related illness 50.02.03 bites and envenomation 50.02.04 dysbarism such as high-altitude edema

	50.02.05	diving injuries
	50.02.06	lightning (electrical) injury
	50.02.07	high altitude illness
50.03	Describes and demonstrate the assessment and management for a patient with the following:	
	50.03.01	Drowning and water related incidents
	50.03.02	temperature-related illness
	50.03.03	bites and envenomation
	50.03.04	dysbarism such as high-altitude edema
	50.03.05	diving injuries
	50.03.06	lightning (electrical) injury
	50.03.07	high altitude illness
50.04	Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.	
50.05	Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.	
50.06	Explain the five ways a body can lose heat	
50.07	Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.	
50.08	Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.	
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:	
51.01	Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.	
51.02	Discuss the golden principle of out-of-hospital trauma care	
51.03	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.04	Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.	
52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:	
52.01	Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy	
52.02	Define the stages of labor and discuss how to assess them	
52.03	Differentiate between normal delivery, abnormal delivery and complications associated with delivery.	
52.04	Differentiate the management of a patient with predelivery emergencies from a normal delivery.	
52.05	State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn	
52.06	Describe how to care for the newborn post-delivery.	

	52.07 Describe the management of the mother post-delivery.
	52.08 State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.09 Describe the procedures for handling complications of pregnancy
	52.10 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	52.11 Describe special patient care considerations of a premature baby.
	52.12 Demonstrate how to listen to fetal heart tones.
	52.13 Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.14 Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.15 Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:
	53.01 Discuss and demonstrate assessment and management considerations of a neonate.
	53.02 Define the term neonate.
	53.03 Identify the factors that lead to premature birth and low birth weight newborns.
	53.04 Calculate the APGAR score given various newborn situations.
	53.05 Discuss the common signs when ventilator assistance is appropriate for a neonate.
	53.06 Identify and discuss the use of oxygen/airway adjuncts in the neonate
	53.07 Discuss the steps in resuscitation of a neonate
	53.08 Discuss the signs of hypovolemia in a newborn.
	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.

	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.
	54.12 Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13 Describe the common causes, assessment and management of neurological emergencies in infants and children.
	54.14 Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15 Demonstrate proper technique for suctioning of infants and children.
	54.16 Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17 Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18 Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:
	55.01 Define and discuss the term “geriatrics.”

	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.
56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:	
	56.01	Define child abuse / neglect
	56.02	Define children with special health care needs.
	56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
	56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
	56.05	Discuss the pathophysiology of children with special health care needs including technology
	56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
	56.07	Discuss the incidence and categories of abuse and assault.
	56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.

56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.
56.21	Define hospice care and comfort care.
56.22	List the stages of the grief process and relate them to an individual in hospice care.
56.23	Describe airway maintenance devices typically found in the home care environment.
56.24	Describe indwelling catheters, implanted central IV ports and central line monitoring.
56.25	Identify failure of GI/GU devices found in the home care setting.
56.26	Identify failure of ventilating devices found in the home care setting.
56.27	Identify failure of vascular access devices found in the home care setting.
56.28	Demonstrate the ability to assess a spouse, elder or child abused patient.
56.29	Demonstrate the ability to assess a sexually assaulted patient.
56.30	Demonstrate the assessment of a patient with a sensory deficit or developmental disability.

	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.
	58.03 Discuss the importance of NIMS (National Incidence Management System).
	58.04 Describe the functional components of the incident management system in terms of the following: 58.04.01 Command 58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning
	58.05 Differentiate between singular and unified command and when each is most applicable.
	58.06 Describe the role of command
	58.07 Describe the need for transfer of command and procedures for transferring it.
	58.08 List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging,

	58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications	
	58.09	Describe techniques used to allocate patients to hospitals and track them.
	58.10	List the physical and psychological signs of critical incident stress.
	58.11	Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:	
	59.01	Describe essential elements of scene size-up when arriving at a potential MCI.
	59.02	Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
	59.03	Describe the role of the physician at multiple casualty incidents.
	59.04	Define triage and describe the principles of triage.
	59.05	Describe the START (simple triage and rapid treatment) method of initial triage.
	59.06	Describe techniques used to allocate patients to hospitals and track them.
	59.07	List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control 59.07.03 Burn management 59.07.04 Patient packaging/immobilization
	59.08	List the physical and psychological signs of critical incident stress.
	59.09	Describe the role of critical incident stress management sessions in MCIs.
	59.10	Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.
	59.11	Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.
	59.12	Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:	
	60.01	Discuss safe air medical operations.

	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.
	60.04 Describe the advantages and disadvantages of air medical transport.
	60.05 Identify the conditions/situations in which air medical transport should be considered.
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.
	60.07 Perform setting up an air medical helicopter landing zone.
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication
	61.02 Describe personal and patient safety during vehicle extrication.
	61.03 Explain the difference between simple access and complex access in vehicle extrication
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
	61.05 Discuss the use of simple hand tools used for vehicle extrication
	61.06 Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.
	61.07 List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems 61.07.03 catalytic converters and conventional fuel systems 61.07.04 stored energy 61.07.05 alternate fuel systems
	61.08 Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
	61.09 Describe the electrical hazards commonly found at highway incidents (above and below ground).
	61.10 Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
	61.11 Explain typical door anatomy and methods to access through stuck doors.
	61.12 Explain SRS or "air bag" systems and methods to neutralize them.
	61.13 Demonstrate the use of wood cribbing to stabilize a vehicle.
	61.14 Demonstrate how to gain access to a patient by using a spring- loaded center punch.

62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:
62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following: 62.01.01 poison control center 62.01.02 medical control 62.01.03 material safety data sheets (MSDS), 62.01.04 reference textbooks 62.01.05 computer databases 62.01.06 Computer-Aided Management of Emergency Operations (CAMEO) 62.01.07 CHEMTREC 62.01.08 technical specialists 62.01.09 Agency for toxic substances and disease registry
62.02	Explain primary and secondary contamination risk.
62.03	List and describe the following routes of exposure:
62.03.01	topical
62.03.02	respiratory
62.03.03	gastrointestinal
62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.
62.05	List and explain the common signs, symptoms and treatment for the following substances: 62.05.01 corrosives (acids/alkalis) 62.05.02 pesticides (carbamates / organophosphates), 62.05.03 chemical asphyxiants (cyanide/carbon monoxide) 62.05.04 hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients
62.07	Determine the appropriate level of PPE by considering the following: 62.07.01 Types 62.07.02 Application 62.07.03 Use and Limitations 62.07.04 Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.
62.09	Demonstrate the donning and doffing of appropriate PPE.
62.10	Set up and demonstrate an emergency two-step decontamination process.

	62.11 Identify DOT Labels, placards and markings that are used to designate HAZMAT materials
	62.12 Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:
	63.01 Describe the role of the EMT on the scene of a natural or man-made disaster
	63.02 Define the different types of terrorism and provide examples of incidents of each.
	63.03 Describe personal and patient safety during a natural or man-made disaster.
	63.04 Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.
	63.05 Discuss the National Terrorism Advisory System
	63.06 Discuss factors to consider when responding to a terrorist situation
	63.07 Discuss important actions to take at the scene of a terrorist event such as: 63.07.01 scene safety 63.07.02 personal protection 63.07.03 notification procedures 63.07.04 available resources 63.07.05 working with in the command system
	63.08 List the main categories of weapons of mass destruction
	63.09 Discuss the different types of chemical agents and their signs and symptoms
	63.10 Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
	63.11 Define the different types of radiations and their effect on the human body.
	63.12 Demonstrate the use of a nerve agent antidote kit.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The **Bureau of Fire Standards and Training (BFST)** is responsible for establishing uniform minimum standards for the employment and training of firefighters and volunteer firefighters and for establishing and maintaining firefighting training programs, curricula requirements, and certification of training schools and training school instructors.

The Curriculum Development staff is responsible for the design, implementation, maintenance, evaluation, and revision of job-related curricula for the Bureau of Fire Standards and Training (BFST) approved firefighters and volunteer firefighters, advanced, specialized, and specialized instructor training programs for fire fighters.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals and Florida Public Service Association (FPSA) are the inter-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Radiologic Technology**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

PSAV	
Program Number	W170210
CIP Number	0351090706
Grade Level	30,31
Standard Length	2700 clock hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2034 Radiologic Technologists
Basic Skills Level	Mathematics: 11 Language: 11 Reading: 11

Purpose

This program is only authorized to be offered by Marion Community Technical & Adult Education.

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Health Science career cluster.

The purpose of this program is to prepare students for employment as Radiographers, Radiologic Technologists SOC Code 29-2034 (Radiologic Technologists/Technicians) or to provide supplemental training for persons previously or presently employed in these occupations.

The content includes but is not limited to radiography, medical ethics and law, medical terminology, methods of patient care, human structure and function, radiographic procedures, principles of radiographic exposure, imaging equipment, radiographic film processing, evaluation of radiographs, radiation physics, principles of radiation protection, principles of radiation biology, radiographic pathology, introduction to quality assurance, introduction to computer literacy, and clinical education. The curriculum includes a plan for well-structured competency based clinical education.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 3 occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	RTE0004	Fundamentals of Radiologic Technology	TEC X Ray @7 7G	96 hours	29-2034
	RTE0410	Radiographic Imaging & Exposure I		96 hours	29-2034
	RTE0505	Radiographic Procedures I		96 hours	29-2034
	RTE0809	Clinical Education I		312 hours	29-2034
B	RTE0450	Radiographic Imaging & Exposure II		90 hours	29-2034
	RTE0506	Radiographic Procedures II		90 hours	29-2034
	RTE0507	Radiographic Procedures III		66 hours	29-2034
	RTE0819	Clinical Education II		504 hours	29-2034
C	RTE0015	Advanced Modality Imaging		54 hours	29-2034
	RTE0780	Radiographic Pathology& Directed Research		86 hours	29-2034
	RTE0610	Radiation Physics		86 hours	29-2034
	RTE0829	Clinical Education III		220 hours	29-2034
	RTE0839	Advanced Clinical Education IV		340 hours	29-2034
	RTE0380	Radiation Biology & Radiation Protection		51 hours	29-2034
	RTE0939	Radiography Seminar		153 hours	29-2034
	RTE0849	Advanced Clinical Education V		360 hours	29-2034

National Standards (NS)

Programs identified as having Industry or National Standards have been cross walked with the corresponding standards and/or benchmarks.

Regulated Programs

The program must also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible for licensure in Florida as a Certified Radiologic Technologist. As specified in Chapter 468 Part IV F.S. and Chapter 64E-3 F.A.C.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a functional knowledge of medical terminology required in radiologic science.
02.0 Convey an understanding of the ethics and laws that impact Radiologic Sciences at both the state and federal levels.
03.0 Demonstrate introductory knowledge of radiologic science and the health care system.
04.0 Demonstrate knowledge of and perform patient care procedures required in radiologic sciences.
05.0 Demonstrate an understanding of pharmacology and venipuncture procedures as it relates to radiologic science.
06.0 Demonstrate proficiency in the skills, techniques and knowledge required for image analysis.
07.0 Demonstrate proficiency in the skills, techniques and knowledge required to operate imaging equipment.
08.0 Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including x-ray production, image formation, and factors related to radiographic quality.
09.0 Demonstrate an understanding of the structure and function of the human body with a focus on the muscular, endocrine, respiratory, urinary and appendicular skeletal systems.
10.0 Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate radiographic procedures.
11.0 Demonstrate the proficiency in the skills and knowledge required of clinical practice.
12.0 Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including image acquisition and processing, scatter radiation control, and image evaluation.
13.0 Demonstrate an understanding of the concepts and equipment required of digital image acquisition and display.
14.0 Demonstrate an understanding of the structure and function of the human body with a focus on the axial skeletal system.
15.0 Demonstrate an understanding of the structure and function of the human body with a focus on the circulatory/cardiovascular, digestive and reproductive systems.
16.0 Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate fluoroscopic procedures.
17.0 Demonstrate an understanding of the structure and function of the human body with a focus on the nervous system.
18.0 Demonstrate introductory knowledge of computed tomography.
19.0 Demonstrate appropriate venipuncture technique.
20.0 Demonstrate an understanding of radiographic pathology.
21.0 Demonstrate an understanding of how radiation is produced and the characteristics of different classifications of radiation.
22.0 Demonstrate an understanding of the structure and function of the human body including the immune system and chemical composition of the body.
23.0 Demonstrate an understanding of the integral aspects of radiation biology required of a radiographer.
24.0 Convey the importance for proper radiation protection and the precautions radiographers should take to prevent unnecessary exposure to themselves and patients.

Florida Department of Education
Student Performance Standards

Program Title: **Radiologic Technology**
PSAV Number: **W170210**

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Course Number: RTE0004 **Occupational Completion Point: A** **Fundamentals of Radiologic Technology – 96 Hours – SOC Code 29-2034**	
01.0	Demonstrate a functional knowledge of medical terminology required in radiologic science. –The student will be able to:
01.01	Apply the word-building process.
01.02	Interpret medical abbreviations and symbols.
01.03	Critique orders, requests and diagnostic reports.
01.04	Define medical imaging and radiation oncology terms.
01.05	Translate medical terms, abbreviations and symbols into common language from a medical report.
02.0	Convey an understanding of the ethics and laws that impact Radiologic Sciences at both the state and federal levels. –The student will be able to:
02.01	Discuss the origins of medical ethics.
02.02	Apply medical/professional ethics in the context of a broader societal ethic.
02.03	Explain the role of ethical behavior in health care delivery.
02.04	Explain concepts of personal honesty, integrity, accountability, competence and compassion as ethical imperatives in health care.
02.05	Identify legal and professional standards and relate each to practice in health professions.
02.06	Identify specific situations and conditions that give rise to ethical dilemmas in health care.
02.07	Explain select concepts embodied in the principles of patients' rights, the doctrine of informed (patient) consent and other issues related to patients' rights.
02.08	Explain the legal implications of professional liability, malpractice, professional negligence and other legal doctrines applicable to professional practice.

	02.09	Describe the importance of accurate, complete and correct methods of documentation as a legal/ethical imperative.
	02.10	Explore theoretical situations and questions relating to the ethics of care and health care delivery.
	02.11	Explain legal terms, principles, doctrines and laws specific to the radiologic sciences.
	02.12	Outline the conditions necessary for a valid malpractice claim.
	02.13	Describe institutional and professional liability protection typically available to the radiographer.
	02.14	Describe the components and implications of informed consent.
	02.15	Identify standards for disclosure relative to informed consent.
	02.16	Describe how consent forms are used relative to specific radiographic procedures.
	02.17	Differentiate between civil and criminal liability.
	02.18	Define tort and explain the differences between intentional and unintentional torts.
	02.19	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
03.0	Demonstrate introductory knowledge of radiologic science and the health care system. –The student will be able to:	
	03.01	Identify other health science professions that participate in the patient's total health care.
	03.02	Identify various settings involved in the delivery of health care.
	03.03	Discuss the reimbursement/payment options for health care services.
	03.04	Discuss the role and value of a mission statement to the operation of an institution.
	03.05	Describe relationships and interdependencies of departments within a health care institution.
	03.06	Discuss the responsibilities and relationships of all personnel in the radiology department.
	03.07	Differentiate between quality improvement/management, quality assurance and quality control.
	03.08	Differentiate among accreditation types.
	03.09	Define credentialing, certification, registration, licensure and regulations.
	03.10	Discuss career opportunities and advancement for the radiographer.
	03.11	Identify the benefits of continuing education as related to improved patient care and professional enhancement.

04.0	Demonstrate knowledge of and perform patient care procedures required in radiologic sciences. –The student will be able to:
04.01	Identify the responsibilities of the health care facility and members of the health care team.
04.02	List the general responsibilities of the radiographer.
04.03	Describe the practice standards for the radiographer as defined by the ASRT and state licensure.
04.04	Differentiate between culture and ethnicity.
04.05	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
04.06	Explain perceptions of dying and death from the viewpoint of both patient and radiographer.
04.07	Describe the characteristics of each stage of grief.
04.08	Identify methods for determining the correct patient for a given procedure.
04.09	Explain the use of various communication devices and systems.
04.10	Explain specific aspects of a radiographic procedure to the patient.
04.11	Demonstrate correct principles of body mechanics applicable to patient care.
04.12	Demonstrate techniques for specific types of patient transfer.
04.13	Demonstrate select procedures to turn patients with various health conditions.
04.14	Describe select immobilization techniques for various types of procedures and patient conditions.
04.15	Describe specific patient safety measures and concerns.
04.16	Explain the purpose, legal considerations and procedures for incident reporting.
04.17	Describe methods to evaluate patient physical status.
04.18	List the information to be collected prior to a patient examination.
04.19	Describe vital signs and lab values used to assess patient condition, including sites for assessment and normal values.
04.20	Define terms related to infection control.
04.21	Describe the importance of standard precautions and isolation procedures, including sources and modes of transmission of infection and disease and institutional control procedures.
04.22	Identify symptoms related to specific emergency situations.

04.23	Describe the institution's emergency medical code system and the role of the student during a medical emergency.
04.24	Explain the age-specific considerations necessary when performing radiographic procedures.
04.25	Describe appropriate procedures for management of various types of trauma situations.
04.26	Describe the symptoms and medical interventions for a patient with a contrast agent reaction.
04.27	Explain the role of the radiographer in patient education.
04.28	Describe the patient preparation for contrast studies.
04.29	Identify specific types of tubes, lines, catheters and collection devices.
04.30	Outline the steps in the operation and maintenance of suction equipment.
04.31	Outline the steps in the operation and maintenance of oxygen equipment and demonstrate proper use.
04.32	Demonstrate competency in basic life support (BLS).
04.33	Describe the steps in performing various mobile procedures.
04.34	Describe the special problems faced in performing procedures on a patient with a tracheotomy and specific tubes, drains and catheters.
04.35	Describe the procedure for producing diagnostic images in the surgical suite.
04.36	Explain the appropriate radiation protection required when performing mobile/surgical radiography.
05.0	Demonstrate an understanding of pharmacology and venipuncture procedures as it relates to radiologic science. –The student will be able to:
05.01	Distinguish among the chemical, generic and trade names for drugs in general.
05.02	Describe pharmacokinetic and pharmacodynamic principles of drugs.
05.03	Explain the uses and impact of drug categories on the patient.
05.04	Define the categories of contrast agents and give specific examples for each category.
05.05	Explain the pharmacology of contrast agents.
05.06	Describe methods and techniques for administering various types of contrast agents.
05.07	Identify and describe the routes of drug administration.

Course Number: RTE0410 **Occupational Completion Point: A** **Radiographic Imaging & Exposure I – 96 Hours – SOC Code 29-2034**	
06.0	Demonstrate proficiency in the skills, techniques and knowledge required for image analysis. –The student will be able to:
06.01	Discuss the elements of a radiographic image.
06.02	Identify anatomy on radiographic images.
06.03	Apply a problem-solving process used for image analysis.
06.04	Describe an effective image analysis method.
06.05	Describe the role of the radiographer in image analysis.
06.06	Apply the process for evaluating images for adequate density/brightness, contrast, recorded detail/spatial resolution and acceptable limits of distortion.
06.07	Explain how the radiographer determines that an adequate level of penetration has been applied to produce an acceptable image.
06.08	Summarize the importance of proper positioning.
06.09	Discuss the impact of patient preparation on the resulting radiographic image.
06.10	Analyze images to determine the appropriate use of beam restriction.
06.11	Identify common equipment malfunctions that affect image quality, and corrective action.
06.12	Differentiate between technical factor problems, procedural factor problems and equipment malfunctions.
06.13	Critique images for appropriate technical, procedural and pathologic factors, and employ corrective actions if necessary.
06.14	Differentiate images produced by various modalities.
07.0	Demonstrate proficiency in the skills, techniques and knowledge required to operate imaging equipment. –The student will be able to:
07.01	Define potential difference, current and resistance.
07.02	Identify the general components and functions of the tube and filament circuits.
07.03	Compare generators in terms of radiation produced and efficiency.
07.04	Discuss permanent installation of radiographic equipment in terms of purpose, components, types and applications.
07.05	Demonstrate operation of various types of permanently installed and mobile radiographic equipment.

	07.06 Discuss mobile units in terms of purpose, components, types and applications.
	07.07 Describe functions of components of automatic exposure control (AEC) devices.
	07.08 Demonstrate proper use of AEC devices.
	07.09 Identify the components of diagnostic x-ray tubes.
	07.10 Explain protocols used to extend x-ray tube life.
	07.11 Explain image-intensified and digital fluoroscopy.
	07.12 Indicate the purpose, construction and application of video camera tubes, CCD and TV monitors.
	07.13 Differentiate between quality improvement/management, quality assurance and quality control.
	07.14 List the benefits of a quality control to the patient and to the department.
	07.15 Discuss the proper test equipment/procedures for evaluating the operation of an x-ray generator.
	07.16 Evaluate the results of basic QC tests.
	07.17 Discuss the basic principles of operation of various imaging modalities and radiation therapy.
08.0	Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including x-ray production, image formation, and factors related to radiographic quality. –The student will be able to:
	08.01 Discuss practical considerations in setting standards for acceptable image quality.
	08.02 Assess radiographic exposure on radiographic images.
	08.03 Analyze the relationships of factors that control and affect image exposure.
	08.04 Critique the radiographic contrast within various radiographic images.
	08.05 Analyze the relationship of factors that control and affect radiographic contrast.
	08.06 Critique recorded detail on various radiographic images.
	08.07 Analyze the relationships of factors that control and affect recorded detail.
	08.08 Differentiate between size and shape distortion.
	08.09 Perform calculations to determine image magnification and percent magnification.
	08.10 Summarize the relationship of factors that control and affect distortion.

08.11	Summarize the relationship of factors affecting exposure latitude.
08.12	Explain the rationale for using beam-limiting devices.
08.13	Describe the operation and applications for different types of beam-limiting devices.
08.14	Explain how beam filtration affects x-ray beam intensity, beam quality and resultant patient exposure.
08.15	Describe the change in the half-value layer (HVL) when filtration is added or removed in the beam.

Course Number: RTE0505 **Occupational Completion Point: A** **Radiographic Procedures I - 96 Hours – SOC Code 29-2034**	
09.0	Demonstrate an understanding of the structure and function of the human body with a focus on the muscular, endocrine, respiratory, urinary and appendicular skeletal systems. –The student will be able to:
09.01	Discuss the basics of anatomical nomenclature.
09.02	Describe the types and functions of human tissues.
09.03	Classify tissue types, describe the functional characteristics of each and give examples of their location within the human body.
09.04	Describe the composition and characteristics of bone.
09.05	Identify and locate the bones of the human appendicular skeleton.
09.06	Identify bony processes and depressions found on the human appendicular skeleton.
09.07	Describe articulations of the appendicular skeleton.
09.08	Summarize the functions of the appendicular skeletal system.
09.09	Label different types of articulations specific to the appendicular skeletal system.
09.10	Compare the types, locations and movements permitted by the different types of articulations.
09.11	Examine how muscle is organized at the gross and microscopic levels.
09.12	Differentiate between the structures of each type of muscle tissue.
09.13	State the function of each type of muscle tissue.
09.14	Name and locate the major muscles of the skeleton.
09.15	Define endocrine.

	09.16	Describe the characteristics and functions of the components that comprise the endocrine system.
	09.17	Differentiate between peritoneum, omentum and mesentery.
	09.18	Label the components of the respiratory system.
	09.19	Describe the physiology and regulation of respiration.
	09.20	Label the parts of the kidneys, ureters, bladder and urethra.
	09.21	Describe the function of each organ of the urinary system.
	09.22	Describe the composition and formation of urine.
	09.23	Explain micturition.
10.0	Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate radiographic procedures. –The student will be able to:	
	10.01	Describe standard positioning terms.
	10.02	Demonstrate proper use of positioning aids.
	10.03	Discuss general procedural considerations for radiographic exams.
	10.04	Identify methods and barriers of communication and describe how each may be used or overcome effectively during patient education.
	10.05	Explain radiographic procedures to patients/family members.
	10.06	Modify directions to patients with various communication problems.
	10.07	Develop an awareness of cultural factors that necessitate adapting standard exam protocols.
	10.08	Adapt general procedural considerations to specific clinical settings.
	10.09	Identify the structures demonstrated on routine radiographic images.
	10.10	Adapt radiographic procedures for special considerations.
	10.11	Simulate radiographic procedures on a person or phantom in a laboratory setting.
	10.12	Evaluate images for positioning, centering, appropriate anatomy and overall image quality.
	10.13	Discuss equipment and supplies necessary to complete basic radiographic procedures.
	10.14	Explain the routine and special positions/projections for all radiographic procedures.

10.15	Describe the general purpose of radiographic studies.
10.16	Apply general radiation safety and protection practices associated with radiographic examinations.

Course Number: RTE0809
Occupational Completion Point: A
Clinical Education I – 312 Hours – SOC Code 29-2034

Clinical Education I provides a foundational practicum in which students are expected to apply skills learned in *Fundamentals of Radiologic Technology* and *Radiographic Procedures I.* The course objectives in *Clinical Education I* repeat in subsequent practicums of clinical education due to the progressive approach to student competency and proficiency. This course is a necessary prerequisite for advancing to *Clinical Education II.*

The content and clinical practice experiences within the course of *Clinical Education I* are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential and competency-based clinical assignments, students will adopt and apply concepts of team practice, radiation protection, and become skillful in patient-centered clinical practice while developing professional expertise and conduct that are discussed, examined and evaluated.

Clinical Education I provides students with practical experiences in patient care and assessment, fosters competent performance of radiologic imaging and impacts total quality management standards. Levels of competency and performance outcomes are measured at six-week intervals. This is designed to ensure the well-being of patients before, during and after performance of radiologic procedures. The evaluative measurement tools provide a mechanism that ensures progression of student competency and proficiency.

11.0	Demonstrate the proficiency in the skills and knowledge required of clinical practice. –The student will be able to:
11.01	Exercise the priorities required in daily clinical practice.
11.02	Execute medical imaging procedures under the appropriate level of supervision.
11.03	Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution.
11.04	Adapt to changes and varying clinical situations.
11.05	Describe the role of health care team members in responding/reacting to a local or national emergency.
11.06	Provide patient-centered, clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture.
11.07	Integrate the use of appropriate and effective written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting.
11.08	Integrate appropriate personal and professional values into clinical practice.
11.09	Recognize the influence of professional values on patient care.

11.10	Explain how a person's cultural beliefs toward illness and health affect his or her health status.
11.11	Use patient and family education strategies appropriate to the comprehension level of the patient/family.
11.12	Provide desired psychosocial support to the patient and family.
11.13	Demonstrate competent assessment skills through effective management of the patient's physical and mental status.
11.14	Respond appropriately to medical emergencies.
11.15	Examine demographic factors that influence patient compliance with medical care.
11.16	Adapt procedures to meet age-specific, disease-specific and cultural needs of patients.
11.17	Assess the patient and record clinical history.
11.18	Demonstrate basic life support procedures.
11.19	Use appropriate charting methods.
11.20	Recognize life-threatening electrocardiogram (ECG) tracing.
11.21	Apply standard and transmission-based precautions.
11.22	Apply the appropriate medical asepsis and sterile technique.
11.23	Demonstrate competency in the principles of radiation protection standards.
11.24	Apply the principles of total quality management.
11.25	Report equipment malfunctions.
11.26	Examine procedure orders for accuracy and make corrective actions when applicable.
11.27	Demonstrate safe, ethical and legal practices.
11.28	Integrate the radiographer's practice standards into clinical practice setting.
11.29	Maintain patient confidentiality standards and meet HIPAA requirements.
11.30	Demonstrate the principles of transferring, positioning and immobilizing patients.
11.31	Comply with departmental and institutional response to emergencies, disasters and accidents.
11.32	Differentiate between emergency and non-emergency procedures.

11.33	Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, providing radiologic procedures and reducing medical errors.
11.34	Select technical factors to produce quality diagnostic images with the lowest radiation exposure possible.
11.35	Critique images for appropriate anatomy, image quality and patient identification.
11.36	Determine corrective measures to improve inadequate images.

Course Number: RTE0450 Occupational Completion Point: B Radiographic Imaging & Exposure II - 90 Hours – SOC Code 29-2034	
12.0	Convey an understanding of the principles of imaging and the various factors that contribute to accuracy including image acquisition and processing, scatter radiation control, and image evaluation. –The student will be able to:
12.01	Summarize the relationship of factors affecting scattered and secondary radiation.
12.02	Evaluate the effects of scattered radiation on the image.
12.03	Compare grid types.
12.04	Select the most appropriate grid for a given clinical situation.
12.05	Interpret grid efficiency in terms of grid ratio and frequency.
12.06	Summarize the factors that influence grid cutoff.
12.07	Evaluate grid artifacts.
12.08	Explain the use of standardized radiographic technique charts.
12.09	Explain exposure factor considerations involved in selecting techniques.
12.10	Compare fixed kilovoltage peak (kVp) and variable kVp systems.
12.11	Apply the reciprocity law to clinical situations.
12.12	Apply conversion factors for changes in the following areas: distance, grid, image receptors, reciprocity law and 15 percent rule.
13.0	Demonstrate an understanding of the concepts and equipment required of digital image acquisition and display. –The student will be able to:
13.01	Define terminology associated with digital imaging systems.
13.02	Describe the various types of digital receptors.

13.03	Describe the response of digital detectors to exposure variations.
13.04	Compare the advantages and limits of each receptor type.
13.05	Evaluate the spatial resolution and dose effectiveness for digital radiography detectors.
13.06	Describe the histogram and the process or histogram analysis as it relates to automatic rescaling and determining an exposure indicator.
13.07	Relate the receptor exposure indicator values to technical factors, system calibration, part/beam/plate alignment and patient exposure.
13.08	Describe the response of PSP systems to background and scatter radiation.
13.09	Use appropriate means of scatter control.
13.10	Avoid grid use errors associated with grid cutoff and Moiré effect.
13.11	Identify common limitations and technical problems encountered when using PSP systems.
13.12	Employ appropriate beam/part/receptor alignment to avoid histogram analysis errors.
13.13	Associate impact of image processing parameters to the image appearance.
13.14	Apply the fundamental principles to digital detectors.
13.15	Evaluate the effect of a given exposure change on histogram shape, data width and image appearance.
13.16	Describe the conditions that cause quantum mottle in a digital image.
13.17	Formulate a procedure or process to minimize histogram analysis and rescaling errors.
13.18	Examine the potential impact of digital radiographic systems on patient exposure and methods of practicing the as low as reasonably achievable (ALARA) concept with digital systems.
13.19	Describe picture archival and communications system (PACS) and its function.
13.20	Identify components of a PACS.
13.21	Define digital imaging and communications in medicine (DICOM).
13.22	Describe HIPAA concerns with electronic information.
13.23	Identify common problems associated with retrieving/viewing images within a PACS.

Course Number: RTE0506 **Occupational Completion Point: B** **Radiographic Procedures II – 90 Hours – SOC Code 29-2034**	
Radiologic Procedures II is a continuation of Radiologic Procedures I and builds on the skills and knowledge obtained in that course. In addition to the course objectives included below in Radiologic Procedures II, standards are also repeated from Radiologic Procedures I due to the progressive approach to student competency and proficiency.	
14.0	Demonstrate an understanding of the structure and function of the human body with a focus on the axial skeletal system. –The student will be able to:
14.01	Describe articulations of the axial skeleton.
14.02	Differentiate the primary and secondary curves of the spine.
14.03	Identify and locate the bones of the human axial skeleton.
14.04	Identify bony processes and depressions found on the human axial skeleton.
14.05	Summarize the functions of the axial skeletal system.
14.06	Label different types of articulations specific to the axial skeletal system.

Course Number: RTE0507 **Occupational Completion Point: B** **Radiographic Procedures III – 66 Hours – SOC Code 29-2034**	
Radiologic Procedures III is a continuation of Radiologic Procedures I and Radiologic Procedures II and builds on the skills and knowledge obtained in that course. In addition to the course objectives included below in Radiologic Procedures III, standards are also repeated from Radiologic Procedures I and Radiologic Procedures II due to the progressive approach to student competency and proficiency.	
15.0	Demonstrate an understanding of the structure and function of the human body with a focus on the circulatory/cardiovascular, digestive and reproductive systems. –The student will be able to:
15.01	Describe the composition and characteristics of blood.
15.02	List the types of blood cells and state their functions.
15.03	Differentiate between blood plasma and serum.
15.04	Outline the clotting mechanism.
15.05	List the blood types.
15.06	Explain the term Rh factor.

	15.07 Explain the antigen/antibody relationship and its use in blood typing.
	15.08 Label the parts of the human heart.
	15.09 Describe the flow of blood through the body and identify the main vessels.
	15.10 Describe the structure and function of arteries, veins and capillaries.
	15.11 Differentiate between arterial blood in systemic circulation and arterial blood in pulmonary circulation.
	15.12 Outline the major pathways of lymphatic circulation.
	15.13 Correlate cardiac electrophysiology to a normal ECG tracing.
	15.14 Label the anatomy of the male and female reproductive organs.
	15.15 Analyze the function of each of the male and female reproductive organs.
	15.16 Describe the structures and functions of the components that comprise the human eye and ear.
	15.17 List the component body parts involved in the senses of smell and taste.
	15.18 List the somatic senses.
	15.19 Describe the hard and soft palates.
	15.20 Describe the structure and function of the tongue.
	15.21 Identify the structure, function and locations of the salivary glands.
	15.22 List and label the accessory organs of the digestive system and describe their function.
	15.23 Describe the composition and characteristics of the primary organs of the digestive system.
	15.24 Describe the function(s) of each primary organ of the digestive system.
	15.25 Differentiate between the layers of tissue that comprise the esophagus, stomach, small intestine, large intestine and rectum.
	15.26 Identify the secretions and function of each accessory organ of the digestive system.
	15.27 Explain the purpose of digestion.
	15.28 List the digestive processes that occur in the body.
16.0	Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate fluoroscopic procedures. –The student will be able to:

16.01	Identify the structures demonstrated on routine fluoroscopic images.
16.02	Adapt fluoroscopic procedures for special considerations.
16.03	Simulate fluoroscopic procedures on a person or phantom in a laboratory setting.
16.04	Evaluate images for positioning, centering, appropriate anatomy and overall image quality.
16.05	Discuss equipment and supplies necessary to complete basic fluoroscopic procedures.
16.06	Explain the patient preparation necessary for various contrast and special studies.
16.07	Explain the routine and special positions/projections for all fluoroscopic procedures.
16.08	Explain the purpose for using contrast media.
16.09	Name the type, dosage and route of administration of contrast media commonly used to perform radiographic contrast and special studies.
16.10	Describe the general purpose of fluoroscopic studies.
16.11	Apply general radiation safety and protection practices associated with fluoroscopic examinations.

Course Number: RTE0819
Occupational Completion Point: B
Clinical Education II – 504 Hours – SOC Code 29-2034

Clinical Education II provides a progressive practicum in sequence to *Clinical Education I* in which students are expected to apply skills learned in *Fundamentals of Radiologic Technology, Radiographic Procedures I, Radiographic Procedures II,* and *Clinical Education I.* The course objectives in *Clinical Education II* are repeated from *Clinical Education I* due to the progressive approach to student competency and proficiency. This course is a necessary prerequisite for advancing to *Clinical Education III.*

The content and clinical practice experiences within the course of *Clinical Education II* are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential and competency-based clinical assignments, students will adopt and apply concepts of team practice, radiation protection, and become skillful in patient-centered clinical practice while developing professional expertise and conduct that are discussed, examined and evaluated.
Clinical Education II provides students with practical experiences in patient care and assessment, fosters competent performance of radiologic imaging and impacts total quality management standards. Levels of competency and performance outcomes are measured at six-week intervals. This is designed to ensure the well-being of patients before, during and after performance of radiologic procedures. The evaluative measurement tools provide a mechanism that ensures progression of student competency and proficiency.

Course Number: RTE0015 **Occupational Completion Point: C** **Advanced Modality Imaging – 54 Hours – SOC Code 29-2034**
17.0 Demonstrate an understanding of the structure and function of the human body with a focus on the nervous system. –The student will be able to:
17.01 Differentiate between the structure and function of different types of nerve cells.
17.02 State the structure of the brain and the relationship of its component parts.
17.03 Describe brain functions.
17.04 List the meninges and describe the function of each.
17.05 Outline how cerebrospinal fluid forms, circulates and functions.
17.06 Describe the structure and function of the spinal cord.
17.07 Determine the distribution and function of cranial and spinal nerves.
17.08 Summarize the structure and function of components that comprise the autonomic nervous system.
18.0 Demonstrate introductory knowledge of computed tomography. –The student will be able to:
18.01 Describe the components of the CT imaging system.
18.02 Explain the functions of collimators in CT.
18.03 List the CT computer data processing steps.
18.04 Define algorithm and explain its impact on image scan factors and reconstruction.
18.05 Define raw data and image data.
18.06 Describe the following terms in relation to the CT data acquisition process:
a. Pixel.
b. Matrix.
c. Voxel.
d. Linear attenuation coefficient.
e. CT/Hounsfield number.

	f. Partial volume averaging.
	g. Window width (ww) and window level (wl).
	h. Spatial resolution.
	i. Contrast resolution.
	j. Noise.
	k. Annotation.
	l. Region of interest (ROI).
18.07	Name the common controls found on CT operator consoles and describe how and why each is used.
18.08	Identify the types and appearance of artifacts most commonly affecting CT images.
18.09	Name the radiation protection devices that can be used to reduce patient dose in CT and describe the correct application of each.
18.10	Describe the general purpose of commonly performed CT studies.
18.11	Discuss general radiation safety and protection practices associated with examinations in CT.
19.0	Demonstrate appropriate venipuncture technique. –The student will be able to:
19.01	Differentiate between the two major sites of intravenous drug administration.
19.02	Identify, describe and document complications associated with venipuncture and appropriate actions to resolve these complications.
19.03	Discuss the various elements of initiating and discontinuing intravenous access.
19.04	Differentiate and document dose calculations for adult and pediatric patients.
19.05	Prepare for injection of contrast agents/intravenous medications using aseptic technique.
19.06	Explain the current legal status and professional liability issues of the radiographer's role in contrast and/or drug administration.

Course Number RTE0780 **Occupational Completion Point: C** **Radiographic Pathology& Directed Research – 86 Hours – SOC Code 29-2034**	
20.0	Demonstrate an understanding of radiographic pathology. –The student will be able to:
20.01	Define basic terms related to pathology.

20.02	Describe the basic manifestations of pathological conditions and their relevance to radiologic procedures.
20.03	Discuss the classifications of trauma.
20.04	Describe imaging procedures used in diagnosing disease.
20.05	List the causes of tissue disruption.
20.06	Describe the healing process.
20.07	Identify complications connected with the repair and replacement of tissue.
20.08	Describe the various systemic classifications of disease in terms of etiology, types, common sites, complications and prognosis.
20.09	Describe the radiographic appearance of diseases.
20.10	Identify imaging procedures and interventional techniques appropriate for diseases common to each body system.
20.11	Identify diseases caused by or connected to genetic factors.

Course Number: RTE0610 **Occupational Completion Point: C** **Radiation Physics – 86 Hours – SOC Code 29-2034**	
21.0	Demonstrate an understanding of how radiation is produced and the characteristics of different classifications of radiation. –The student will be able to:
21.01	Describe fundamental atomic structure.
21.02	Explain the processes of ionization and excitation.
21.03	Describe the electromagnetic spectrum.
21.04	Describe wavelength and frequency and how they are related to velocity.
21.05	Explain the relationship of energy, wavelength and frequency.
21.06	Explain the wave-particle duality phenomena.
21.07	Identify the properties of x-rays.
21.08	Describe the processes of ionization and excitation.
21.09	Describe charged and uncharged forms of particulate radiation.
21.10	Differentiate between ionizing and nonionizing radiation.

21.11	Describe radioactivity and radioactive decay in terms of alpha, beta and gamma emission.
21.12	Compare the production of bremsstrahlung and characteristic radiations.
21.13	Describe the conditions necessary to produce x-radiation.
21.14	Describe the x-ray emission spectra.
21.15	Identify the factors that affect the x-ray emission spectra.
21.16	Discuss various photon interactions with matter by describing the interaction, relation to atomic number, photon energy and part density, and their applications in diagnostic radiology.
21.17	Discuss relationships of wavelength and frequency to beam characteristics.
21.18	Discuss the clinical significance of the photoelectric and modified scattering interactions in diagnostic imaging.

Course Number: RTE0829
Occupational Completion Point: C
Clinical Education III – 220 Hours – SOC Code 29-2034

Clinical Education III provides a progressive practicum in sequence to *Clinical Education II* in which students are expected to apply skills learned in *Fundamentals of Radiologic Technology, Radiographic Procedures I, Radiographic Procedures II, Radiographic Procedures III* and all previously sequenced Clinical Education courses. The course objectives in *Clinical Education III* are repeated from *Clinical Education I* due to the progressive approach to student competency and proficiency. This course is a necessary prerequisite for advancing to *Clinical Education IV.*

The content and clinical practice experiences within the course of *Clinical Education III* are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential and competency-based clinical assignments, students will adopt and apply concepts of team practice, radiation protection, and become skillful in patient-centered clinical practice while developing professional expertise and conduct that are discussed, examined and evaluated.

Clinical Education III provides students with practical experiences in patient care and assessment, fosters competent performance of radiologic imaging and impacts total quality management standards. Levels of competency and performance outcomes are measured at six-week intervals. This is designed to ensure the well-being of patients before, during and after performance of radiologic procedures. The evaluative measurement tools provide a mechanism that ensures progression of student competency and proficiency.

Course Number RTE0839
Occupational Completion Point: C
Advanced Clinical Education IV – 340 Hours – SOC Code 29-2034

Advanced Clinical Education IV provides an advanced progressive practicum in sequence to *Clinical Education III* in which students are expected to apply skills learned in *Fundamentals of Radiologic Technology, Radiographic Procedures I, II and III, Radiographic Imaging I and II,* and all previously sequenced Clinical Education courses. The course objectives in *Clinical Education IV* are repeated from *Clinical Education I* due to the progressive approach to student competency and proficiency. This course is a necessary prerequisite for advancing to *Clinical Education V.*

The content and clinical practice experiences within the course of *Advanced Clinical Education IV* are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential and advanced competency-based clinical assignments, students will consistently demonstrate concepts of team practice; proficiency of skills in patient-centered clinical practice and radiation protection; and professional expertise and conduct that are discussed, examined and evaluated.

Advanced Clinical Education IV provides students with advanced practical experiences in patient care and assessment, fosters competent performance of radiologic imaging and impacts total quality management standards. *Advanced Clinical IV* includes practice in venipuncture skills and shadowing in advanced modality imaging. Levels of competency and performance outcomes are measured at six-week intervals. This is designed to ensure the well-being of patients before, during and after performance of radiologic procedures. The evaluative measurement tools provide a mechanism that ensures progression of student competency and proficiency.

Course Number: RTE0380 **Occupational Completion Point: C** **Radiation Biology & Radiation Protection – 51 Hours – SOC Code 29-2034**	
22.0	Demonstrate an understanding of the structure and function of the human body including the immune system and chemical composition of the body. –The student will be able to:
22.01	Describe the chemical composition of the human body.
22.02	Identify cell structure and elements of genetic control.
22.03	Explain the essentials of human metabolism.
22.04	Differentiate between nonspecific defenses and specific immunity.
22.05	Explain antibody production and function.
22.06	List the different types and functions of T- and B-cells and explain their functions.
23.0	Demonstrate an understanding of the integral aspects of radiation biology required of a radiographer. –The student will be able to:
23.01	Differentiate between ionic and covalent molecular bonds.
23.02	Describe principles of cellular biology.
23.03	Identify sources of electromagnetic and particulate ionizing radiations.
23.04	Discriminate between direct and indirect ionizing radiation.
23.05	Discriminate between the direct and indirect effects of radiation.

	23.06 Identify sources of radiation exposure.
	23.07 Describe radiation-induced chemical reactions and potential biologic damage.
	23.08 Evaluate factors influencing radiobiologic/biophysical events at the cellular and subcellular level.
	23.09 Identify methods to measure radiation response.
	23.10 Describe physical, chemical and biologic factors influencing radiation response of cells and tissues.
	23.11 Explain factors influencing radiosensitivity.
	23.12 Recognize the clinical significance of lethal dose (LD).
	23.13 Identify specific cells from most radiosensitive to least radiosensitive.
	23.14 Employ dose response curves to study the relationship between radiation dose levels and the degree of biologic response.
	23.15 Examine effects of limited vs. total body exposure.
	23.16 Relate short-term and long-term effects as a consequence of high and low radiation doses.
	23.17 Differentiate between somatic and genetic radiation effects and discuss specific diseases or syndromes associated with them.
	23.18 Discuss stochastic (probabilistic) and nonstochastic (deterministic) effects.
	23.19 Discuss embryo and fetal effects of radiation exposure.
	23.20 Discuss risk estimates for radiation-induced malignancies.
	23.21 Discuss acute radiation syndromes.
24.0	Convey the importance for proper radiation protection and the precautions radiographers should take to prevent unnecessary exposure to themselves and patients. –The student will be able to:
	24.01 Identify and justify the need to minimize unnecessary radiation exposure of humans.
	24.02 Distinguish between somatic and genetic radiation effects.
	24.03 Differentiate between the stochastic (probabilistic) and nonstochastic (deterministic) effects of radiation exposure.
	24.04 Explain the objectives of a radiation protection program.
	24.05 Define radiation and radioactivity units of measurement.
	24.06 Identify effective dose limits (EDL) for occupational and nonoccupational radiation exposure.

24.07	Describe the ALARA concept.
24.08	Identify the basis for occupational exposure limits.
24.09	Distinguish between perceived risk and comparable risk.
24.10	Describe the concept of the negligible individual dose (NID).
24.11	Identify ionizing radiation sources from natural and man-made sources.
24.12	Comply with legal and ethical radiation protection responsibilities of radiation workers.
24.13	Describe the relationship between irradiated area and effective dose.
24.14	Describe the theory and operation of radiation detection devices.
24.15	Identify appropriate applications and limitations for each radiation detection device.
24.16	Describe how isoexposure curves are used for radiation protection.
24.17	Identify performance standards for beam-limiting devices.
24.18	Describe procedures used to verify performance standards for equipment and indicate the potential consequences if the performance standards fail.
24.19	Describe the operation of various interlocking systems for equipment and indicate potential consequences of interlock system failure.
24.20	Identify conditions and locations evaluated in an area survey for radiation protection.
24.21	Distinguish between controlled and non-controlled areas and list acceptable exposure levels.
24.22	Describe “Radiation Area” signs and identify appropriate placement sites.
24.23	Describe the function of federal, state and local regulations governing radiation protection practices.
24.24	Describe the requirements for and responsibilities of a radiation safety officer.
24.25	Express the need and importance of personnel monitoring for radiation workers.
24.26	Describe personnel monitoring devices, including applications, advantages and limitations for each device.
24.27	Interpret personnel monitoring reports.
24.28	Compare values for individual effective dose limits for occupational radiation exposures (annual and lifetime).
24.29	Identify anatomical structures that are considered critical for potential late effects of whole body irradiation exposure.

24.30	Identify effective dose limits for the embryo and fetus in occupationally exposed women.
24.31	Distinguish between primary and secondary radiation barriers.
24.32	Demonstrate how the operation of various x-ray and ancillary equipment influences radiation safety and describe the potential consequences of equipment failure.
24.33	Perform calculations of exposure with varying time, distance and shielding.
24.34	Discuss the relationship between workload, energy, half-value layer (HVL), tenth-value layer (TVL), use factor and shielding design.
24.35	Identify emergency procedures to be followed during failures of x-ray equipment.
24.36	Demonstrate how time, distance and shielding can be manipulated to keep radiation exposures to a minimum.
24.37	Explain the relationship of beam-limiting devices to patient radiation protection.
24.38	Discuss added and inherent filtration in terms of the effect on patient dosage.
24.39	Explain the purpose and importance of patient shielding.
24.40	Identify various types of patient shielding and state the advantages and disadvantages of each type.
24.41	Use the appropriate method of shielding for a given radiographic procedure.
24.42	Explain the relationship of exposure factors to patient dosage.
24.43	Explain how patient position affects dose to radiosensitive organs.
24.44	Identify the appropriate image receptor that will result in an optimum diagnostic image with the minimum radiation exposure to the patient.
24.45	Select the immobilization techniques used to eliminate voluntary motion.
24.46	Describe the minimum source-to-tabletop distances for fixed and mobile fluoroscopic devices.
24.47	Apply safety factors for the patient, health care personnel and family members in the room during radiographic procedures.

Course Number: RTE0939
Occupational Completion Point: C
Radiography Seminar – 153 Hours – SOC Code 29-2034

Radiography Seminar provides the student a systematic approach to integrating, synthesizing, and evaluating program content knowledge to ensure adequate preparation for meeting the requirements for licensure in radiologic technology. This course provides evaluative assessment tools that aide the student in conveying and demonstrating mastery of the course objectives from all program content:

- Convey an understanding of the ethics and laws that impact radiologic sciences at both the state and federal levels.
- Demonstrate knowledge of radiologic science as it pertains to the healthcare system.

- Demonstrate a functional knowledge of medical terminology required in radiologic sciences.
- Demonstrate knowledge of patient care procedures required in radiologic sciences.
- Convey an understanding of pharmacology and venipuncture procedures as it relates to radiologic sciences.
- Demonstrate proficiency in the skills, techniques and knowledge required for image analysis.
- Demonstrate proficiency in the skills, techniques and knowledge required to operate imaging equipment.
- Convey an understanding of the principles of imaging and the various factors that contribute to accuracy.
- Convey an understanding of the structure and function of the human body.
- Demonstrate proficiency in the skills, techniques and knowledge required to perform accurate radiographic procedures.
- Convey an understanding of the concepts and equipment required of digital image acquisition and display.
- Convey an understanding of how radiation is produced and the characteristics of different classifications of radiation.
- Convey an understanding of radiographic pathology.
- Convey an understanding of the integral aspects of radiation biology required of a radiographer.
- Convey an understanding of the importance for proper radiation protection and the precautions radiographers should take to prevent unnecessary exposure to themselves and patients.

Course Number: RTE0849
Occupational Completion Point: C
Advanced Clinical Education V – 360 Hours – SOC Code 29-2034

Advanced Clinical Education V provides an advanced progressive practicum in sequence to *Advanced Clinical Education IV* in which students are expected to apply skills learned in *Fundamentals of Radiologic Technology, Radiographic Procedures I, II and III, Radiographic Imaging I and II,* and all previously sequenced Clinical Education courses. The course objectives in *Advanced Clinical Education V* are repeated from *Clinical Education I* due to the progressive approach to student competency and proficiency.

The content and clinical practice experiences within the course of *Advanced Clinical Education V* are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential and advanced competency-based clinical assignments, students will consistently demonstrate concepts of team practice; proficiency of skills in patient-centered clinical practice and radiation protection; and professional expertise and conduct that are discussed, examined and evaluated.

Advanced Clinical Education V provides students with advanced practical experiences in patient care and assessment, fosters competent performance of radiologic imaging and impacts total quality management standards. *Advanced Clinical V* includes practice in venipuncture skills and shadowing in advanced modality imaging. Levels of competency and performance outcomes are measured at six-week intervals. This is designed to ensure the well-being of patients before, during and after performance of radiologic procedures. The evaluative measurement tools provide a mechanism that ensures that program standards of student competency and proficiency have been met.

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Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The program must be accredited. by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 900, Chicago, Illinois 60606-2901, (312) 704-5300, or or any other appropriate accrediting agency acceptable to the American Registry of Radiologic Technologists (ARRT).

The program must also be approved by the Department of Health, Bureau of Radiation Control so that the graduate is eligible for licensure in Florida as a Certified Radiologic Technologist. As specified in Chapter 468 Part IV F.S. and Chapter 64E-3 F.A.C.

Radiographers provide patient services using imaging modalities, as directed by physicians qualified to order and/or perform radiologic procedures. Radiographers usually provide patient care essential to radiologic procedures, including exercising judgment when performing medical imaging procedures. When providing patient services, the radiographer adheres to the principles of radiation protection for the patient, self, and others.

Radiographers accurately demonstrate anatomical structures on various imaging receptors by knowledge of anatomy, positioning, radiographic technique, and radiation protection. Radiographers must also be able to recognize emergency patient conditions and initiate lifesaving first aid. Additional duties may include performing quality assurance, processing film, and keeping patient records. Radiographers may be required to perform some of these duties at the patient's bedside or in the operating room.

The policies and process by which students receive clinical education shall be published and made known to all concerned in order to avoid practices in which students are substituted for paid staff. Students shall not take the responsibility or the place of qualified staff. After demonstrating competency, students may be permitted to perform procedures with indirect supervision. Unsatisfactory radiographs shall be repeated only in the presence of a qualified radiographer.

Program completers will be eligible to make an application to take the National Registry examination. For further information contact:

American Registry of Radiologic Technologists (ARRT)
1255 Northland Drive
St. Paul, MN 55120-1155

(612) 687-0048

Students are encouraged to become members of their appropriate professional organizations such as the American Society of Radiologic Technologists (ASRT), Florida Society of Radiologic Technologists (FSRT) and its' local affiliate.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 11, Language 11, and Reading 11. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as

instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Paramedic**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

This program is ONLY authorized to be offered by the following districts: Lake, Manatee, St. Johns, and Sarasota.

PSAV	
Program Number	W170211 (This program is for use by Grandfathered Districts ONLY)
CIP Number	0351090416
Grade Level	30,31
Standard Length	1100 clock hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9099 Healthcare Support Workers, All Other 29-2041 Emergency Medical Technicians and Paramedics
Basic Skills Level	Mathematics: 10 Language: 10 Reading: 10

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This is an instructional program that prepares students for employment as paramedics SOC 29-2041 (Emergency Medical Technicians & Paramedics) to function at the basic pre-hospital emergency medical technician - paramedic level and treat various medical/trauma conditions, using appropriate equipment and materials. The program prepares students for certification as paramedics in accordance with Chapter 64E-2 of the Florida Administrative Code.

The content includes but is not limited to: patient assessment, advanced airway management, cardiovascular emergencies, external and internal bleeding and shock, traumatic injuries, fractures, dislocations, sprains, poisoning, heart attack, stroke, diabetes, pharmacology, medication administration, respiratory emergencies, endocrine emergencies, acute abdomen, communicable diseases, patients with abnormal behavior, substance abuse, the unconscious state, emergency childbirth, pediatric and geriatric emergencies, burns, environmental hazards, communications, documentation, extrication, mass casualty incident, incident command system, and transportation of patient.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 1 occupational completion point.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	EMS0210	Paramedic I	PARAMEDIC @7 7G # REG NURSE 7 G #PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	248 hours	29-2041
	EMS0211	Paramedic II		426 hours	
	EMS0212	Paramedic III		426 hours	

 # A registered Nurse (REG NURSE 7 G) can only be used as adjunct faculty. Please refer to 64J-1.201 F.A.C. for the EMS instructor qualifications.

Regulated Programs

The Paramedic standards and benchmarks in this framework include all of the content, knowledge and skills at the EMT level in addition to the Paramedic objectives. For those standards that state "Review EMT standards and benchmarks", please refer to the EMT curriculum framework for specific objectives.

The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation (DOT), National EMS Educational Standards for Paramedic. This is the second level for a career in emergency medical services. Completion of this program should prepare the student for the certification examination approved for the state of Florida.

This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the

Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

A Paramedic program must be taught by faculty meeting the qualifications as set forth in 64J-1.020 F. A. C.

Pursuant F.S.401.2701 to Paramedic programs must be available only to Florida-certified emergency medical technicians or an emergency medical technician applicant who will obtain Florida certification prior to completion of phase one of the paramedic program and EMT certification must be maintained through the program.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems.
02.0 Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice.
03.0 Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness.
04.0 Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing.
05.0 Demonstrate a complex depth, comprehensive breadth of EMS communication system.
06.0 Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles.
07.0 Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS.
08.0 Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems.
09.0 Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals.
10.0 Demonstrate a comprehensive knowledge of pathophysiology of major systems.
11.0 Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development.
12.0 Demonstrate the application of fundamental knowledge of principles of public health.
13.0 Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology.
14.0 Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic.
15.0 Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic.
16.0 Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic.
17.0 Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation.
18.0 Demonstrate a complex depth, comprehensive breadth of scene management.
19.0 Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations.
20.0 Demonstrate a complex depth, comprehensive breath of the components of history taking.
21.0 Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment.
22.0 Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic.
23.0 Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations.
24.0 Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints.
25.0 Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups.
26.0 Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups.
27.0 Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups.
28.0 Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups.
29.0 Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups.
30.0 Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups.
31.0 Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups.

32.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups.
33.0 Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
34.0 Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups.
35.0 Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups.
36.0 Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups.
37.0 Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups.
39.0 Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure.
40.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
41.0 Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups.
42.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups.
43.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups.
44.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
45.0 Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups.
48.0 Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups.
49.0 Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups.
50.0 Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries.
51.0 Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic.
52.0 Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic.
53.0 Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic.
54.0 Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic.

55.0 Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic.
56.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
57.0 Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system.
58.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
59.0 Demonstrate a complex depth, comprehensive breadth of air Medical transport risks, needs and advantages.
60.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
61.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Paramedic**
PSAV Number: **W170211**

The Paramedic standards and benchmarks in this framework include all of the content, knowledge and skills at the EMT level in addition to the Paramedic objectives. For those standards that state "Review EMT standards and benchmarks", please refer to the EMT curriculum framework for specific objectives.

Course Number: EMS0210 **Occupational Completion Point: A** **Paramedic I – 248 hours – SOC Code 29-2041**	
01.0	**EMS Systems:** Demonstrate a fundamental depth and foundational breadth of the History of EMS and a complex depth and comprehensive breadth of EMS Systems. –The student will be able to:
01.01	Define terms, including but not limited to: EMS systems, licensure, registration, profession, professionalism, health care professional, ethics, peer review, medical direction and protocols.
01.02	Describe the attributes of a paramedic as a health care professional.
01.03	Explain paramedic licensure/ certification, recertification, and reciprocity requirements in his or her state.
01.04	Evaluate the importance of maintaining one's paramedic license/ certification.
01.05	Describe the benefits of paramedic continuing education.
01.06	Discuss the role of national associations and of a national registry agency.
01.07	Discuss Chapter 401, Florida Statutes, and Chapter 64-E, Florida Administrative Code
01.08	Discuss the roles of various EMS standard setting agencies.
01.09	Identify the standards (components) of an EMS System as defined by the National Highway Traffic Safety Administration.
01.10	Describe examples of professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
01.11	Describe the importance of quality EMS research to the future of EMS.
01.12	Describe the role of the EMS physician in providing medical direction.
01.13	Provide examples of local protocols.

	01.14 Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.
	01.15 Define the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
	01.16 Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
	01.17 Advocate the need for injury prevention, including abusive situations.
	01.18 Exhibit professional behaviors in the following areas: integrity, empathy, self-motivation, appearance and personal hygiene, self-confidence, communications, time management, teamwork and diplomacy, respect, patient advocacy, and careful delivery of service.
	01.19 Discuss the diverse types of EMS services and how they affect the delivery of advanced pre-hospital care
02.0	**Research:** Demonstrate a fundamental depth, foundational breath of research principles to interpret literature and advocate evidence-based practice. –The student will be able to:
	02.01 Interpret results, reach conclusions, and generate new ideas based on results
	02.02 Discuss the importance of evidenced based medicine and medical research and its role in refining EMS practices.
03.0	**Workforce Safety and Wellness:** Demonstrate a complex depth, comprehensive breadth of workforce safety and wellness. –The student will be able to:
	03.01 Discuss the concept of wellness and its benefits.
	03.02 Discuss how cardiovascular endurance, muscle strength, and flexibility contribute to physical fitness.
	03.03 Describe the impact of shift work on circadian rhythms.
	03.04 Discuss how periodic risk assessments and knowledge of warning signs contribute to cancer and cardiovascular disease prevention.
	03.05 Differentiate proper from improper body mechanics for lifting and moving patients in emergency and non-emergency situations.
	03.06 Describe the problems that a paramedic might encounter in a hostile situation and the techniques used to manage the situation.
	03.07 Describe the equipment available for self-protection when confronted with a variety of adverse situations.
	03.08 Describe the three phases and factors that trigger the stress response.
	03.09 Differentiate between normal/ healthy and detrimental reactions to anxiety and stress.
	03.10 Identify and describe the defense mechanisms and management techniques commonly used to deal with stress.
	03.11 Describe the components of critical incident stress management (CISM).
	03.12 Describe the needs of the paramedic when dealing with death and dying.

	03.13 Discuss the importance of standard precautions and body substance isolation practices.
	03.14 Defend the need to treat each patient as an individual, with respect and dignity.
	03.15 Defend the need to respect the emotional needs of dying patients and their families.
	03.16 Identify the human, environmental, and socioeconomic impact of unintentional and alleged unintentional events.
	03.17 Identify health hazards and potential crime areas within the community.
	03.18 Describe the importance of effective documentation as one justification for funding of prevention programs.
04.0	**Documentation:** Demonstrate a complex depth, comprehensive breadth of the principles of medical documentation and report writing. – The student will be able to:
	04.01 Identify the general principles regarding the importance of EMS documentation and ways in which documents are used.
	04.02 Identify and use medical terminology correctly.
	04.03 Record all pertinent administrative information to a given standard
	04.04 Analyze the documentation for accuracy and completeness, including spelling.
	04.05 Describe the differences between subjective and objective elements of documentation.
	04.06 Describe the potential consequences of illegible, incomplete, or inaccurate documentation.
	04.07 Describe the special considerations concerning patient refusal of transport.
	04.08 Explain how to properly record direct patient or bystander comments.
	04.09 Describe the special considerations concerning mass casualty incident documentation.
	04.10 Identify and record the pertinent, reportable clinical data of each patient interaction.
	04.11 Note and record pertinent negative clinical findings.
	04.12 Demonstrate proper completion of an EMS event record used locally.
05.0	**EMS Communication:** Demonstrate a complex depth, comprehensive breadth of EMS communication system. –The student will be able to:
	05.01 Identify the role of verbal, written, and electronic communications in the provision of EMS.
	05.02 Describe the phases of communications necessary to complete a typical emergency.
	05.03 Identify the importance of proper terminology when communicating during an emergency.

	05.04	List factors that impede effective verbal and written communications.
	05.05	List factors which enhance verbal and written communications.
	05.06	Recognize the legal status of written communications related to an emergency.
	05.07	Identify the components of the local EMS communications system and describe their function and use.
	05.08	Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.
	05.09	Describe the functions and responsibilities of the Federal Communications Commission.
	05.10	Describe how an emergency medical dispatcher (EMD) functions as an integral part of the EMS team.
	05.11	List appropriate information to be gathered by the Emergency Medical Dispatcher.
	05.12	Describe and organize a list of patient assessment information in the correct order for electronic transmission to medical direction according to the format used locally.
	05.13	State the proper procedures and sequence for delivery of patient information to other healthcare professionals.
06.0	**Therapeutic Communication:** Demonstrate a complex depth and comprehensive breadth of the therapeutic communication principles. – The student will be able to:	
	06.01	Identify internal and external factors that affect a patient/ bystander interview conducted by a paramedic.
	06.02	Review the strategies for developing patient rapport.
	06.03	Summarize the methods to assess mental status based on interview techniques.
	06.04	Discuss the strategies for interviewing a patient who is unmotivated to talk.
	06.05	Summarize developmental considerations of various age groups that influence patient interviewing.
	06.06	Review unique interviewing techniques necessary to employ with patients who have special needs.
	06.07	Discuss interviewing considerations used by paramedics in cross-cultural communications.
07.0	**Medical/Legal and Ethics:** Demonstrate a complex depth, comprehensive breadth of medical legal and ethical concepts related to EMS. –The student will be able to:	
	07.01	Differentiate between legal and ethical responsibilities.
	07.02	Differentiate between licensure and certification as they apply to the paramedic.
	07.03	List the specific problems or conditions encountered while providing care that a paramedic is required to report, and identify in each instance to whom the report is to be made.

	07.04	Review terms, including but not limited to, the following: abandonment, battery, breach of duty, consent (expressed, implied, informed, voluntary), DNR orders, duty to act, emancipated minor, false imprisonment, liability, libel, negligence, proximate cause, scope of practice, slander, and tort.
	07.05	Differentiate between the scope of practice and the standard of care for paramedic practice.
	07.06	Discuss the concept of medical direction, including off-line medical direction and on-line medical direction, and its relationship to the standard of care of a paramedic.
	07.07	Review the four elements that must be present in order to prove negligence.
	07.08	Review the legal concept of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
	07.09	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
	07.10	Review consent to include expressed, informed, implied, and involuntary.
	07.11	Given a scenario, demonstrate appropriate patient management and care techniques in a refusal of care situation.
	07.12	Differentiate between assault and battery and describe how to avoid each.
	07.13	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
	07.14	Describe the importance of providing accurate documentation (oral and written) in substantiating an incident.
	07.15	Describe the characteristics of a patient care report required to make it an effective legal document.
	07.16	Describe the criteria necessary to honor an advance directive in Florida.
	07.17	Demonstrate an understanding of the Paramedic's role in mandatory reporting associated with abused, neglected and/or assaulted patient.
08.0	**Anatomy and Physiology:** Demonstrate a complex depth and comprehensive breadth of anatomy and physiology of all human systems. – The student will be able to:	
	08.01	Review the EMT standards and benchmarks for the Anatomy & Physiology and apply an integration of a complex depth and comprehensive breath of knowledge of the anatomy and physiology of all human body systems.
09.0	**Medical Terminology:** Demonstrate the integration of comprehensive anatomical and medical terminology and abbreviations into written and oral communication with health care professionals. –The student will be able to:	
	09.01	Review the EMT standards and benchmarks for the medical terminology and apply an integration of comprehensive anatomical and medical terminology and abbreviations with colleagues and other health care professionals.
10.0	**Pathophysiology:** Demonstrate a comprehensive knowledge of pathophysiology of major systems. –The student will be able to:	
	10.01	Describe the factors that precipitate disease in the human body including familial diseases and risk factors.
	10.02	Describe environmental risk factors.

10.03	Review terms including but not limited to: cardiogenic, hypovolemic, neurogenic, anaphylactic and septic shock.
10.04	Describe multiple organ dysfunction syndrome (MODS)
10.05	Discuss the correlation of pathophysiology with disease processes.
10.06	Identify the Major classes of cells.
10.07	Describe and discuss the cellular structure, function and components.
10.08	Define the types of body tissues.
10.09	Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury and cellular death/necrosis.
10.10	Discuss the cellular environment including distribution of body fluids, aging and distribution of body fluids, water movement between ICF and ECF, water movement between plasma and interstitial fluid, alterations in water movement - edema, water balance and the role of electrolytes, and acid-base balances.
10.11	Describe genetics and familial diseases including factors causing disease, analyzing risk, combined effects and interaction among risk factors, and common familial disease and associated risk factors.
10.12	Define hypoperfusion and discuss pathogenesis, types of shock, multiple organ dysfunction syndrome, and cellular metabolism impairment.
10.13	Describe the self –defense mechanisms including the lines of defense, characteristics of the immune response, introduction of the immune response, humoral immune response, cell-mediated immune response, cellular interactions in the immune response, fetal and neonatal immune function and aging and the immune response in the elderly.
10.14	Describe the inflammation process including the acute inflammatory response, mast cells plasma protein systems, cellular components of inflammation, cellular products, systemic response of acute inflammation, chronic inflammation responses, local inflammation responses, phases of resolution and repair, and aging and self defense mechanisms.
10.15	Discuss variances in immunity and inflammation including hypersensitivity, allergy, autoimmunity and isoimmunity, and immunity and inflammation deficiencies.
10.16	Discuss blood volume circulation disturbances
10.17	Describe the buffer system
11.0	**Life Span Development:** Apply the integration of knowledge of the physiological, psychological, and sociological changes throughout human development. –The student will be able to:
11.01	Compare, contrast and analyze the physiological and psychosocial characteristics of the following age groups to an early adult: 11.01.01 an infant 11.01.02 a toddler 11.01.03 pre-school child 11.01.04 school aged child 11.01.05 adolescent 11.01.06 middle aged adult

12.0	**Public Health:** Demonstrate the application of fundamental knowledge of principles of public health. –The student will be able to:
12.01	Review the EMT standards and benchmarks for the public health and apply a fundamental knowledge of the principles of public health, epidemiology, health promotion and illness and injury prevention.
13.0	**Principles of Pharmacology:** Demonstrate a complex depth, comprehensive breadth in the principles of pharmacology. –The student will be able to:
13.01	Differentiate among the chemical, generic (nonproprietary), and trade (proprietary) names of a drug.
13.02	List the four main sources of drug products.
13.03	Describe how drugs are classified.
13.04	List legislative acts controlling drug use and abuse in the United States.
13.05	Differentiate among Schedule I, II, III, IV, and V substances.
13.06	Use reference materials to research medications.
13.07	Discuss standardization of drugs.
13.08	Discuss investigational drugs, including the Food and Drug Administration (FDA) approval process and the FDA classifications for newly approved drugs.
13.09	Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
13.10	List and describe general properties of drugs.
13.11	List and describe liquid and solid drug forms.
13.12	List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
13.13	Describe the process called pharmacokinetics, and pharmacodynamics, including theories of drug action, drug-response relationship, factors altering drug responses, predictable drug responses, iatrogenic drug responses, and unpredictable adverse drug responses.
13.14	Describe specific medications used by rescuers in the prehospital setting.
13.15	Describe common unintended adverse effects of medication administration.
13.16	Discuss the prevention, recognition and management of adverse medication reactions.
13.17	Anticipate how various factors, such as age, body mass, and others, can alter drug responses.
13.18	Select the optimal medication and method of medication administration for patients with a particular clinical condition or situation.
14.0	**Medication Administration:** Demonstrate a complex depth, comprehensive breadth of medication administration within the scope of practice of the paramedic. –The student will be able to:

14.01	Review the specific anatomy and physiology pertinent to medication administration.
14.02	Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
14.03	Review mathematical principles and discuss equations as a basis for performing drug calculations.
14.04	Describe the indications, contraindications, procedure, equipment and risks associated with peripheral intravenous or external jugular access.
14.05	Describe the indications, equipment needed, technique used, precautions, and general principles of intraosseous needle placement and infusion.
14.06	Describe complications that can occur as a result of IV therapy.
14.07	Discuss the "six rights" of drug administration and correlate these with the principles of medication administration.
14.08	Describe the use of standard precautions and body substance isolation (BSI) procedures when administering a medication.
14.09	Prepare medications for administration from a variety of types of packaging, including vials, non-constituted vials, ampules, prefilled syringes, and packaging for intravenous solutions.
14.10	Describe the role of medical direction in medication administration and describe the difference between direct orders (online) and standing orders (off-line).
14.11	Explain why determining what medications (prescribed / OTC) a patient is taking is a critical aspect of patient assessment.
14.12	Describe the equipment needed and general principles of administering oral medications.
14.13	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 14.13.01 inhalation route 14.13.02 gastric tube 14.13.03 rectal route
14.14	Differentiate among the different percutaneous routes of medication administration.
14.15	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
14.16	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values as referenced in the National EMS educational guidelines: Paramedic Instructional Guidelines.
14.17	Demonstrate principles of medical asepsis in the administration of medications.
14.18	Synthesize a pharmacologic management plan including medication administration.
14.19	Demonstrate the procedure for disposal of contaminated items and supplies.
14.20	Demonstrate cannulation of peripheral or external jugular veins.
14.21	Demonstrate intraosseous needle placement and infusion.

	14.22 Demonstrate administration of medications by the following routes: 14.22.01 oral 14.22.02 Sublingual 14.22.03 Auto-injector 14.22.04 inhalation route 14.22.05 intranasal route. 14.22.06 subcutaneous route. 14.22.07 intramuscular route. 14.22.08 intravenous route. 14.22.09 intraosseous route.
15.0	**Emergency Medications:** Demonstrate a complex depth, comprehensive breadth of emergency medications within the scope of practice for the paramedic. –The student will be able to:
	15.01 Identify medications used by the paramedic, including indications, contraindications, dosages, adverse reactions, side effects, and interactions for the following:
	15.01.01 Airway management
	15.01.02 Respiratory
	15.01.03 Cardiovascular
	15.01.04 Neurologic conditions
	15.01.05 Gastrointestinal
	15.01.06 Miscellaneous medications
16.0	**Airway Management and Respiration:** Demonstrate a complex depth, comprehensive breadth of airway management and respiration within the scope of practice of the paramedic. –The student will be able to:
	16.01 Explain the primary objective of airway maintenance.
	16.02 Explain the differences between pediatric, adult and geriatric airway anatomy.
	16.03 List the concentration of gases that comprise atmospheric air.
	16.04 Describe the measurement of oxygen in the blood.
	16.05 Describe the measurement of carbon dioxide in the blood.
	16.06 Describe peak expiratory flow.
	16.07 List factors that cause decreased oxygen concentrations in the blood.
	16.08 List the factors that increase and decrease carbon dioxide production in the body.

	16.09	Define pulses paradoxes.
	16.10	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV).
	16.11	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
	16.12	Define, identify and describe a tracheostomy, stoma, and tracheostomy tube.
	16.13	Define, identify, and describe a laryngectomy.
	16.14	Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.15	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
	16.16	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
	16.17	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
	16.18	Describe the indications, contraindications, advantages, disadvantages and complications for performing an open cricothyrotomy.
	16.19	Demonstrate the procedure for percutaneous cricothyrotomy.
	16.20	Identify and describe the function of the structures located in the upper and lower airway.
	16.21	Discuss the physiology of ventilation and respiration.
17.0	**Artificial Ventilation:** Demonstrate a complex breadth, comprehensive breadth of assessment and management utilizing artificial ventilation. –The student will be able to:	
	17.01	Perform pulse oximetry.
	17.02	Perform and interpret wave form capnography and colormetric in all age groups.
	17.03	Demonstrate proper use of airway and ventilation devices including administration of BIPAP/CPAP and PEEP devices.
	17.04	Demonstrate effective techniques of advanced airway management of the following: 17.04.01 orotracheal, 17.04.02 nasotracheal, 17.04.03 subglottic, 17.04.04 supraglottic, 17.04.05 digital intubation
	17.05	Describe and demonstrate methods of assessment for confirming correct placement of Any airway device
	17.06	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.

	17.07 Describe methods of endotracheal intubation in the pediatric patient.
	17.08 Demonstrate proper use of airway and ventilation devices.
	17.09 Demonstrate the procedure for the following : 17.09.01 lighted stylet 17.09.02 fiber optic
18.0	**Scene Size-Up:** Demonstrate a complex depth, comprehensive breadth of scene management. –The student will be able to:
	18.01 Describe common hazards found at the scene of a trauma and a medical patient.
	18.02 Discuss common mechanisms of injury/ nature of illness.
	18.03 Explain the rationale for crew members to evaluate scene safety prior to entering.
	18.04 Observe various scenarios and identify potential hazards.
	18.05 Demonstrate the scene-size-up.
19.0	**Primary Assessment:** Demonstrate a complex depth, comprehensive breadth of the primary assessment for all patient situations. –The student will be able to:
	19.01 Summarize the reasons for forming a general impression of the patient.
	19.02 Discuss and demonstrate methods of evaluating and assessing mental status.
	19.03 Categorize levels of consciousness in the pediatric, adult and geriatric patient.
	19.04 Discuss and demonstrate methods of assessing the airway in the pediatric, adult and geriatric patient.
	19.05 Describe and demonstrate methods used for assessing if a patient is breathing.
	19.06 Differentiate between the methods of assessing breathing and providing airway care to the pediatric, adult and geriatric patient.
	19.07 Differentiate between locating and assessing a pulse in the pediatric, adult and geriatric patient.
	19.08 Discuss the need for assessing the patient for external bleeding.
	19.09 Demonstrate the techniques for assessing the patient for external bleeding.
	19.10 Describe normal and abnormal findings when assessing skin color, temperature, and condition.
	19.11 Demonstrate the techniques for assessing if the patient has a pulse.
	19.12 Demonstrate the techniques for assessing the patient's skin color, temperature, and condition.
	19.13 Discuss and demonstrate prioritizing a patient for care and transport.

	19.14 Perform a detailed physical examination.
20.0	**History Taking:** Demonstrate a complex depth, comprehensive breath of the components of history taking. –The student will be able to:
	20.01 Describe the components and demonstrate techniques of patient history taking.
	20.02 Demonstrate the importance of empathy when obtaining a health history.
	20.03 Adapt communication strategies to communicate effectively with the following types of patients: patients of all ages; patients of various cultures; patients with sensory impairments; angry, hostile, uncooperative, silent or overly talkative patients; patients who are anxious , crying or depressed; patients who offer multiple complaints or symptoms; intoxicated patients
21.0	**Secondary Assessment:** Demonstrate a complex depth, comprehensive breadth of techniques used for a secondary assessment. –The student will be able to:
	21.01 Describe the techniques of inspection, palpation, percussion, and auscultation for patients of all ages
	21.02 Distinguish the importance of abnormal findings of the assessment of the skin.
	21.03 Differentiate normal and abnormal assessment findings of the mouth and pharynx.
	21.04 Appreciate the limitations of conducting a physical exam in the out-of-hospital environment.
	21.05 Demonstrate the examination of the patient including the following: 21.05.01 skin, hair and nails. 21.05.02 head and neck 21.05.03 eyes, ears and nose 21.05.04 mouth and pharynx 21.05.05 thorax and ventilation 21.05.06 peripheral vascular system 21.05.07 musculoskeletal system 21.05.08 nervous system
	21.06 Demonstrate the examination of the posterior chest including auscultation and percussion of the chest.
	21.07 Demonstrate the examination of the arterial pulse including location, rate, rhythm, and amplitude.
	21.08 Demonstrate special examination techniques of the cardiovascular examination.
	21.09 Demonstrate the examination of the abdomen including auscultation of the abdomen.
	21.10 Describe the evaluation of patient's perfusion status based on findings in the initial assessment.
	21.11 State the reasons for performing a rapid trauma assessment.
	21.12 Discuss the reason for performing a focused history and physical exam.

	21.13 Discuss the components of the detailed physical exam in relation to the techniques of examination.
	21.14 Demonstrate the external visual examination of the female genitalia.
	21.15 Demonstrate the examination of the male genitalia.
	21.16 Explain the reasons for identifying the need for additional help or assistance.
	21.17 State reasons for management of the cervical spine once the patient has been determined to be a trauma patient.
	21.18 Discuss the reasons for repeating the initial assessment as part of the on-going assessment.
	21.19 Describe the components of the on-going assessment.
	21.20 Discuss medical identification devices/ systems.
22.0	**Monitoring Devices:** Demonstrate a fundamental depth, foundational breadth of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
	22.01 Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 22.01.01 Continuous ECG monitoring 22.01.02 12-Lead ECG 22.01.03 Capnography (wave form) 22.01.04 Capnometry (colorimetric) 22.01.05 CO-oximetry 22.01.06 Methaglobin monitoring 22.01.07 Total hemoglobin 22.01.08 Basic blood chemistry 22.01.09 Ultrasound 22.01.10 other devices identified at the EMT level
	22.02 Demonstrate the use of the following patient monitoring technologies. 22.02.01 Continuous ECG monitoring 22.02.02 12-Lead ECG 22.02.03 Capnography (wave form) 22.02.04 Capnometry (colorimetric) 22.02.05 other devices identified at the EMT level
23.0	**Reassessment:** Demonstrate a complex depth, comprehensive breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	23.01 Review the EMT standards and benchmarks for the reassessment section and demonstrate a complex depth and comprehensive breadth of how and when to perform a reassessment for all patient situations.

Course Number: EMS0211 **Occupational Completion Point: A** **Paramedic II – 426 hours – SOC Code 29-2041**	
24.0	**Medical Overview:** Demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment, and management of medical complaints. –The student will be able to:
	24.01 Review the EMT standards and benchmarks for medical overview and demonstrate a complex depth and comprehensive breadth of pathophysiology, assessment and management of medical complaints.
25.0	**Neurology:** Demonstrate a complex depth and comprehensive breadth of neurologic disorders/emergencies for all age groups. –The student will be able to:
	25.01 Identify the risk factors associated with nervous system dysfunction.
	25.02 Review the anatomy and physiology of the organs and structures related to nervous system.
	25.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: : 25.03.01 coma 25.03.02 altered mental status 25.03.03 seizures 25.03.04 syncope 25.03.05 transient ischemic attack 25.03.06 stroke and intracranial hemorrhage 25.03.07 degenerative neurologic diseases 25.03.08 chronic alchoholism 25.03.09 back pain and non-traumatic spinal disorders
	25.04 Describe and differentiate the major types of seizures.
	25.05 Describe the types of stroke and intracranial hemorrhage.
	25.06 Describe the significance of the prevalence of neurologic disorders in the United States.
	25.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to neurologic disorders.
26.0	**Abdominal and Gastrointestinal Disorders:** Demonstrate a complex depth and comprehensive breadth of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:
	26.01 Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
	26.02 Discuss the pathophysiology of inflammation and its relationship to acute abdominal pain.
	26.03 Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	26.04 Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.

	26.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders: 26.05.01 Both Upper and lower gastrointestinal bleeding 26.05.02 Acute gastroenteritis. 26.05.03 Colitis. 26.05.04 Diverticulitis. 26.05.05 Appendicitis. 26.05.06 Peptic ulcer disease. 26.05.07 Bowel obstruction. 26.05.08 Crohn's disease. 26.05.09 Pancreatitis. 26.05.10 Esophageal varices. 26.05.11 Hemorrhoids. 26.05.12 Cholecystitis. 26.05.13 Acute hepatitis.
	26.06 Identify patients with risk factors for gastrointestinal emergencies.
	26.07 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to gastrointestinal disorders.
	26.08 Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
27.0	**Immunology:** Demonstrate a complex depth, comprehensive breadth of immunology disorders/emergencies for all age groups. –The student will be able to:
	27.01 Define: 27.01.01 Allergic reaction. 27.01.02 Anaphylaxis 27.01.03 Antigens 27.01.04 Antibodies
	27.02 Review the anatomy and physiology of the organs and structures related to anaphylaxis.
	27.03 Describe the prevention of anaphylaxis and appropriate patient education.
	27.04 Discuss the pathophysiology of allergy and anaphylaxis.
	27.05 Describe the common methods of entry of substances into the body.
	27.06 List common antigens most frequently associated with anaphylaxis.
	27.07 Describe physical manifestations in anaphylaxis.
	27.08 Differentiate manifestations of an allergic reaction from anaphylaxis.
	27.09 Recognize the signs and symptoms related to anaphylaxis.

	27.10	Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis.
	27.11	Develop a treatment plan based on field impression in the patient with allergic reaction and anaphylaxis.
28.0	**Infectious Diseases:** Demonstrate a complex depth, comprehensive breadth of assessment and management of a patient who may have an infectious diseases for all age groups. –The student will be able to:	
	28.01	Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
	28.02	List and describe the steps of an infectious process.
	28.03	List and describe infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
	28.04	Describe characteristics of the immune system, including the categories of white blood cells, the reticuloendothelial system (RES), and the complement system.
	28.05	Describe and discuss the rationale for the various types of PPE.
	28.06	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
	28.07	Discuss disinfection of patient care equipment, and areas in which care of the patient occurred.
	28.08	Consistently demonstrate the proper use of body substance isolation.
	28.09	Perform an assessment of a patient with an infectious/communicable disease.
	28.10	Effectively and safely manage a patient with an infectious/communicable disease, including airway and ventilation care, support of circulation, pharmacological intervention, transport considerations, psychological support/communication strategies, and other considerations as mandated by local protocol.
	28.11	Explain public health principles related to infectious disease.
	28.12	Describe the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
	28.13	Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
	28.14	Explain the principles and practices of infection control in prehospital care.
	28.15	Describes the EMS professional’s responsibilities as well as their rights under the Ryan White Act.

	28.16 Discuss the causative agent, body systems affected and potential secondary complications, routes of transmission, susceptibility and resistance, signs and symptoms and demonstrate the patient management and protective/control measures, and immunization for the following infectious diseases: 28.16.01 HIV 28.16.02 Hepatitis A, B, C, D, E 28.16.03 Tuberculosis 28.16.04 Meningococcal meningitis (spinal meningitis) 28.16.05 Pneumonia 28.16.06 Tetanus 28.16.07 Varicella (chickenpox) 28.16.08 Mumps 28.16.09 Rubella (German measles) 28.16.10 Measles (rubeola, hard measles) 28.16.11 Influenza 28.16.12 Mononucleosis 28.16.13 gastroenteritis
	28.17 Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease, to include bronchiolitis, bronchitis, laryngitis, croup, epiglottitis, and the common cold.
	28.18 Describe the pathophysiology of infectious diseases of immediate concern to EMS providers.
	28.19 Describe the EMS provider's role in patient education and preventing disease transmission.
	28.20 Explain the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).
29.0	**Endocrine Disorders:** Demonstrate a complex depth, comprehensive breadth in endocrine disorders/emergencies for all age groups. – The student will be able to:
	29.01 Identify the risk factors related to disorders of the endocrine system.
	29.02 Review the anatomy and physiology of organs and structures related to endocrinologic diseases.
	29.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following endocrinologic emergencies: 29.03.01 30.03.01 hypoglycemia (responsive and unresponsive) 29.03.02 30.03.02 hyperglycemia 29.03.03 30.03.03 diabetic ketoacidosis 29.03.04 30.03.04 Cushing's syndrome 29.03.05 30.03.05 Adrenal insufficiency 29.03.06 30.03.06 Pituitary disorders 29.03.07 30.03.07 Thyroid disorders
	29.04 Describe the mechanism of ketone body formation and its relationship to ketoacidosis.
	29.05 Describe the compensatory mechanisms utilized by the body to promote homeostasis relative to hypoglycemia.

	29.06 Develop a patient management plan based on field impression in the patient with an endocrinologic emergency.
	29.07 Demonstrate how to administer glucagon to a hypoglycemic patient.
30.0	**Psychiatric:** Demonstrate a complex depth, comprehensive breadth regarding the assessment and management of psychiatric disorders/emergencies for all age groups. –The student will be able to:
	30.01 Define behavior and distinguish between normal and abnormal behavior.
	30.02 Discuss the prevalence of behavior and psychiatric disorders.
	30.03 Discuss the factors that may alter the behavior or emotional status of an ill or injured individual.
	30.04 Describe the medical legal considerations for management of emotionally disturbed patients.
	30.05 Discuss the pathophysiology of behavioral and psychiatric disorders.
	30.06 Define the following terms: 30.06.01 Affect 30.06.02 Anger 30.06.03 Anxiety 30.06.04 Confusion 30.06.05 Depression 30.06.06 Fear 30.06.07 Mental status 30.06.08 Open-ended questions 30.06.09 Posture
	30.07 Describe the verbal techniques useful in managing the emotionally disturbed patient.
	30.08 Describe the circumstances when relatives, bystanders and others should be removed from the scene.
	30.09 Describe the techniques that facilitate the systematic gathering of information from the disturbed patient.
	30.10 Identify techniques for physical assessment in a patient with behavioral problems.
	30.11 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient.
	30.12 List the risk factors (including behaviors) for suicide.
	30.13 Differentiate between the various behavioral and psychiatric disorders based on the assessment and history.
	30.14 Develop a patient management plan based on the field impressions.
	30.15 Demonstrate safe techniques for managing and restraining a violent patient.

31.0	**Cardiovascular:** Demonstrate a complex depth, comprehensive breadth of cardiovascular disorders/ emergencies for all age groups. –The student will be able to:
31.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.
31.02	Identify the risk factors of coronary artery disease.
31.03	Review the anatomy and physiology of the cardiovascular system.
31.04	Describe the blood flow pathway through the vascular system including the arteries, veins and associated structures.
31.05	Explain how the heart functions as a pump; including the concepts of cardiac output, stroke volume, heart rate, and ejection fraction.
31.06	Discuss the physiology of the cardiac cycle and the fluid dynamics associated with the cardiovascular system including Starling's Law, systole and diastole.
31.07	Identify the four properties that aid in the function of the heart including excitability, conductivity, automaticity, and contractility.
31.08	Define the terms: 31.08.01 depolarization 31.08.02 repolarization 31.08.03 pulse deficit 31.08.04 pulsus paradoxus 31.08.05 pulsus alternans 31.08.06 hypertensive emergency 31.08.07 cardiac tamponade 31.08.08 cardiogenic shock 31.08.09 cardiac arrest
31.09	List the ions involved in myocardial action potential and their primary and their primary function in this process.
31.10	Describe the events involved in the steps from excitation to contraction of the cardiac muscle fibers.
31.11	Identify the structure and course of all divisions and subdivisions of the cardiac conduction system.
31.12	Identify and describe how the heart's pacemaking control, rate, and rhythm are determined.
31.13	Compare and contrast the coronary artery distribution to the major portions of the cardiac conduction systems.
31.14	Identify the structures of the autonomic nervous system (ANS).
31.15	Identify the effect of the ANS on heart rate, rhythm and contractility.
31.16	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
31.17	Identify and describe the components of the focused history as it relates to the patient with cardiovascular compromise.

31.18	Explain the assessment and management of the following cardiovascular conditions:
31.19	Identify the normal characteristics of the point of maximal impulse (PMI).
31.20	Identify and define the normal and abnormal heart sounds.
31.21	Relate heart sounds to hemodynamic events in the cardiac cycle.
31.22	Explain the purpose of ECG monitoring and how ECG wave forms are produced.
31.23	Identify the components of the ECG rhythm strip and list any limitations.
31.24	Identify how heart rates, durations, and amplitudes may be determined from ECG tracings.
31.25	Describe the placement of leads and electrodes in 3 lead and 12 lead ECG monitoring..
31.26	Differentiate among the primary mechanisms responsible for producing cardiac dysrhythmias.
31.27	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
31.28	Describe the dysrhythmias originating or sustained in the in the following areas: 31.28.01 sinus node 31.28.02 the AV junction 31.28.03 bundle branch system 31.28.04 atria 31.28.05 ventricles
31.29	Describe the process and the pitfalls of differentiation of wideQRS complex tachycardias.
31.30	Describe the conditions of pulseless electrical activity.
31.31	Describe the phenomena of reentry, aberration and accessory pathways.
31.32	Identify the ECG changes characteristically produced by electrolyte imbalances and specify the clinical implications.
31.33	Identify patient situations where ECG rhythm analysis is indicated.
31.34	Recognize the changes and any limitations on the ECG that may reflect evidence of myocardial ischemia and injury.
31.35	Compare manual defibrillation from cardioversion and synchronized cardioversion.
31.36	Describe the components of a transcutaneous pacer, its application and setting adjustments as well as the clinical indications and techniques for use.
31.37	Based on field impressions, identify the need for rapid intervention for the patient in cardiovascular compromise.

31.38	Discuss the pathophysiology and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan: 31.38.01 Angina 31.38.02 Myocardial infarction STEMI/Non-STEMI 31.38.03 Congestive heart failure 31.38.04 Cardiac tamponade 31.38.05 Cardiogenic shock 31.38.06 Hypertension and acute hypertensive states 31.38.07 Cardiac arrest 31.38.08 Vascular disorders 31.38.09 Hypertrophic cardiomyopathies 31.38.10 Infectious diseases of the heart
31.39	Identify the drugs of choice, the rationale for use, clinical precautions and disadvantages and/or complications for the following conditions: 31.39.01 Angina 31.39.02 Myocardial infarction STEMI/Non-STEMI 31.39.03 Congestive heart failure 31.39.04 Cardiac tamponade 31.39.05 Cardiogenic shock 31.39.06 Hypertension and acute hypertensive states 31.39.07 Cardiac arrest 31.39.08 Vascular disorders 31.39.09 Hypertrophic cardiomyopathies 31.39.10 Infectious diseases of the heart
31.40	Describe the most commonly used pharmacological agents in the management of congestive heart failure in terms of therapeutic effect, dosages, routes of administration, side effects and toxic effects.
31.41	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
31.42	Compare fibrinolysis from percutaneous intervention as reperfusion techniques used in patients with AMI or suspected AMI and describe the "window of opportunity" as it pertains to reperfusion of a Myocardial infarction.
31.43	List the characteristics of a patient eligible for thrombolytic therapy.
31.44	Define the term "acute pulmonary edema" and describe its relationship to left ventricular failure.
31.45	Define preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
31.46	Differentiate between early and late signs and symptoms of left ventricular failure and those of right ventricular failure.
31.47	Explain the clinical significance of paroxysmal nocturnal dyspnea.
31.48	Explain clinical significance of edema of the extremities and sacrum.

31.49	Describe how to determine if pulses paradoxus, pulses alternans, or electrical alternans is present.
31.50	Identify non-cardiac causes of cardiac arrest.
31.51	Identify the clinical significance of claudication and presence of arterial bruits in a patient with peripheral vascular disorders.
31.52	Describe the clinical significance of unequal arterial blood pressure readings in the arms.
31.53	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
31.54	Explain how to confirm asystole using 3 lead ECG.
31.55	Identify circumstances and situations where resuscitation efforts would not be initiated.
31.56	Identify and list inclusion and exclusion criteria for termination of resuscitative efforts.
31.57	Identify communication and documentation protocols with medical direction and law enforcement used for termination of resuscitation efforts.
31.58	Apply knowledge of the epidemiology of cardiovascular disease to develop prevention strategies.
31.59	Defend the urgency in rapid determination of and rapid intervention of patients in cardiac arrest.
31.60	Defend the possibility of termination of resuscitative efforts in the out-of-hospital setting.
31.61	Demonstrate how to set and adjust the ECG monitor settings to varying patient situations.
31.62	Demonstrate how to record a 3, 4, 10 and 12 lead ECG.
31.63	Given the model of a patient with signs and symptoms of heart failure, position the patient to afford them comfort or relief.
31.64	Demonstrate how to determine if pulsus paradoxus, pulsus alternans, or electrical alternans is present.
31.65	Set up and apply a transcutaneous pacing system.
31.66	List the possible complications of pacing.
31.67	Demonstrate how to perform post-resuscitative care.
31.68	Demonstrate satisfactory performance of psychomotor skills of basic and advanced life support techniques according to the current American Heart Association Guidelines or its equivalent, including: 31.68.01 cardiopulmonary resuscitation 31.68.02 defibrillation 31.68.03 synchronized cardioversion 31.68.04 transcutaneous pacing
32.0	**Toxicology:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of toxicology emergencies for all age groups. –The student will be able to:

32.01	Describe the epidemiology, incidence, morbidity and mortality of toxic emergencies.
32.02	Identify the risk factors of toxic emergencies.
32.03	Discuss the role of the Poison Control Center in the United States.
32.04	List the most common poisonings by ingestion.
32.05	Recognize the signs and symptoms related to the most common poisonings by ingestion.
32.06	Discuss the factors affecting the decision to induce vomiting in a patient with ingested poison.
32.07	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by ingestion.
32.08	Define poisoning by inhalation.
32.09	List the most common poisonings by inhalation.
32.10	Describe the pathophysiology of poisoning by inhalation.
32.11	Recognize the signs and symptoms related to the most common poisonings by inhalation.
32.12	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by inhalation.
32.13	Define poisoning by injection.
32.14	List the most common poisonings by injection.
32.15	Recognize the signs and symptoms related to the most common poisonings by injection.
32.16	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with the most common poisonings by injection.
32.17	Define poisoning by surface absorption.
32.18	List the most common poisonings by surface absorption.
32.19	Describe the pathophysiology of poisoning by surface absorption.
32.20	Recognize the signs and symptoms related to the most common poisonings by surface absorption.
32.21	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by surface absorption.
32.22	Define poisoning by overdose.
32.23	List the most common poisonings by overdose.

32.24	Describe the pathophysiology of poisoning by overdose.
32.25	Recognize the signs and symptoms related to the most common poisonings by overdose.
32.26	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by overdose.
32.27	Define drug abuse.
32.28	Define the following terms: 32.28.01 Substance or drug abuse 32.28.02 Substance or drug dependence 32.28.03 Tolerance 32.28.04 Withdrawal 32.28.05 Addiction
32.29	List the most commonly abused drugs (both by chemical name and street names).
32.30	Recognize the signs and symptoms related to the most commonly abused drugs.
32.31	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients using the most commonly abused drugs.
32.32	List the clinical uses, street names, pharmacology, assessment finding and management for patient who have taken the following drugs or been exposed to the following substances: Cocaine, marijuana and cannabis compounds, Amphetamines and amphetamine-like drugs, Barbiturates, Sedative-hypnotics, Cyanide, Narcotics/opiates, cardiac medications, Caustics, common household substances, Drugs abused for sexual purposes/sexual gratification, Carbon monoxide, Alcohols, Hydrocarbons, Psychiatric medications, Newer anti-depressants and serotonin syndromes, Lithium, MAO inhibitors, Non-prescription pain medications, Nonsteroidal anti-inflammatory agents, Salicylates, Acetaminophen, Theophylline, Metals, Plants and mushrooms

	32.33 Discuss the specific differences and considerations in the pathophysiology, assessment findings and treatment associated with a patient suffering from the following toxins and toxidromes: 32.33.01 Carbon Monoxide. 32.33.02 Cyanide. 32.33.03 Cardiac Medications 32.33.04 Organophosphates. 32.33.05 Caustic Substances. 32.33.06 Hydrocarbons. 32.33.07 Hydrofluoric Acid 32.33.08 Prescription Medications (pain relievers, psychiatric medications). 32.33.09 Alcohol, Alcoholism and withdrawal. 32.33.10 Tricyclic Antidepressants 32.33.11 Monoamine Oxidase Inhibitors 32.33.12 Newer Antidepressants and Serotonin Syndrome 32.33.13 Lithium 32.33.14 Salicylates 32.33.15 Acetaminophens. 32.33.16 NSAIDs 32.33.17 Theophylline 32.33.18 Metals (iron, lead, mercury). 32.33.19 Contaminated Food. 32.33.20 Poisonous plants and Mushrooms 32.33.21 Animal bites, Insect Stings 32.33.22 Commonly Abused Drugs
	32.34 Discuss common causative agents, pharmacology, assessment findings and management for a patient with food poisoning.
	32.35 Discuss common offending organisms, pharmacology, assessment findings and management for a patient with a bite or sting.
	32.36 Develop a patient management plan based on field impression in the patient exposed to a toxic substance.
	32.37 Describe the epidemiology of toxicologic disorders and substance abuse.
	32.38 Explain the proper procedures for transporting a patient exposed to a toxic chemical to a receiving facility.
	32.39 Demonstrate the steps for assessment and management of the suspected poisoning or overdose patient.
33.0	**Respiratory:** Demonstrate a complex depth, comprehensive breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:
	33.01 Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States
	33.02 Define hypoventilation and hyperventilation, and outline the conditions with which they are often associated
	33.03 Review the anatomy, physiology and functions of the respiratory system.

33.04	Explain how gas exchange occurs at the interface of the alveoli and the pulmonary capillary bed.
33.05	Describe the physiology of respiration including nervous, cardiovascular, muscular, chemical, renal respiratory control mechanisms and ventilation-perfusion mismatch.
33.06	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.
33.07	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.
33.08	Differentiate between normal and abnormal breath sounds and its physiologic significance.
33.09	Discuss abnormal assessment findings associated with pulmonary diseases and conditions.
33.10	Explain how to access the adequacy of the circulation of a patient with dyspnea.
33.11	Discuss the way transport decisions are made for patients with respiratory distress.
33.12	Describe the interventions available for treating patients with respiratory emergencies.
33.13	Describe those devices used to monitor patients with respiratory complaints.
33.14	Discuss those complications which cause the COPD patient to decompensate.
33.15	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.
33.16	Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following respiratory conditions: 33.16.01 pulmonary infections (upper and lower airway) 33.16.02 atelectasis 33.16.03 anatomic or foreign body obstruction 33.16.04 aspiration 33.16.05 asthma 33.16.06 emphysema 33.16.07 chronic bronchitis 33.16.08 spontaneous pneumothorax 33.16.09 pleural effusion 33.16.10 pulmonary embolism 33.16.11 cancer 33.16.12 toxic inhalations 33.16.13 pulmonary edema 33.16.14 acute respiratory distress syndrome (ARDS) 33.16.15 Pneumonia 33.16.16 Neoplasms of the lung 33.16.17 Hyperventilation syndrome

	33.17 Compare various airway and ventilation techniques used in the management of pulmonary diseases.
	33.18 Review the pharmacological preparations that paramedics use for management of respiratory diseases and conditions.
	33.19 Review the use of equipment used during the physical examination of patients with complaints associated with respiratory diseases and conditions.
	33.20 Describe the variations of respiratory anatomy and the pathophysiology of respiratory disease across the life spans.
34.0	**Hematology:** Demonstrate a complex depth, foundational breadth of the assessment, and management of hematology disorders/ emergencies for all age groups. –The student will be able to:
	34.01 Identify the role of heredity in the risk for hematologic disorders.
	34.02 Review the anatomy of the hematopoietic system.
	34.03 Describe volume and volume-control related to the hematopoietic system.
	34.04 Describe normal red blood cell (RBC) production, function and destruction.
	34.05 Explain the significance of the hematocrit with respect to red cell size and number.
	34.06 Explain the correlation of the RBC count, hematocrit and hemoglobin values.
	34.07 Define anemia.
	34.08 Recognize medications used to decrease the risk of thrombosis.
	34.09 Describe normal white blood cell (WBC) production, function and destruction.
	34.10 Identify alterations in immunologic response.
	34.11 List the leukocyte disorders.
	34.12 Describe platelets with respect to normal function, life span and numbers.
	34.13 Describe the components of the hemostatic mechanism.
	34.14 Describe the function of coagulation factors, platelets and blood vessels necessary for normal coagulation.
	34.15 Identify blood groups.
	34.16 Identify the components of physical assessment as they relate to the hematologic system.

	34.17 Discuss the pathophysiology and demonstrate the assessment, and management of patients with the following conditions: 34.17.01 Anemia 34.17.02 Leukemia 34.17.03 Lymphomas 34.17.04 Polycythemia 34.17.05 Disseminated intravascular coagulopathy 34.17.06 Hemophilia 34.17.07 Sickle cell disease 34.17.08 Multiple myeloma 34.17.09 Leukopenia/neutropenia 34.17.10 Leukocytosis 34.17.11 Thrombocytosis 34.17.12 Thrombocytopenia
	34.18 Integrate pathophysiological principles into the assessment of a patient with hematologic disease.
35.0	**Genitourinary/Renal:** Demonstrate a complex depth, comprehensive breadth of genitourinary and renal emergencies all age groups. –The student will be able to:
	35.01 Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
	35.02 Review the anatomy and physiology of the organs and structures related to urogenital diseases.
	35.03 Define referred pain and visceral pain as it relates to urology.
	35.04 Describe the technique for performing a comprehensive physical examination of a patient complaining of abdominal pain.
	35.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients of the following urologic and renal conditions: 35.05.01 Acute renal failure 35.05.02 Chronic renal failure 35.05.03 Complications related to hemodialysis and peritoneal dialysis. 35.05.04 Renal Calculi 35.05.05 Priapism 35.05.06 Testicular torsion 35.05.07 Urinary tract infection
	35.06 Apply the epidemiology to develop prevention strategies for urological emergencies.
	35.07 Integrate pathophysiological principles to the assessment of a patient with abdominal pain.
	35.08 Synthesize assessment findings and patient history information to accurately differentiate between pain of a urogenital emergency and that of other origins.
	35.09 Develop, execute, and evaluate a treatment plan based on the field impression made in the assessment.

	35.10 Adapt the scene size-up, primary assessment, patient history, secondary assessment, and use of monitoring technology to meet the needs of patients with complaints and presentations related to urologic and renal disorders.
36.0	**Gynecology:** Demonstrate a complex depth, comprehensive breadth of the assessment findings and the management of gynecology disorders/emergencies for all age groups. –The student will be able to:
	36.01 Review the anatomic structures and physiology of the female reproductive system.
	36.02 Identify the normal events of the menstrual and ovarian cycle including: 36.02.01 Proliferative phase 36.02.02 Secretory phase 36.02.03 Menstrual phase 36.02.04 Menopause
	36.03 Explain how to recognize a gynecological emergency.
	36.04 Discuss the pathophysiology and demonstrate the assessment, and management of patients with specific gynecological emergencies: 36.04.01 Infection (including Pelvic inflammatory disease, Bartholin's abscess, and vaginitis/ vulvovaginitis) 36.04.02 Ovarian cyst and ruptured ovarian cyst 36.04.03 Ovarian torsion 36.04.04 Endometriosis 36.04.05 Dysfunctional uterine bleeding 36.04.06 Prolapsed uterus 36.04.07 Vaginal foreign body 36.04.08 Vaginal Hemorrhage 36.04.09 Ectopic Pregnancy
	36.05 Describe the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	36.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
	36.07 Demonstrate how to assess a patient with a gynecological complaint.
	36.08 Demonstrate how to provide care for a patient with: 36.08.01 Excessive vaginal bleeding 36.08.02 Abdominal pain 36.08.03 Sexual assault.
37.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundation breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	37.01 Discuss the epidemiology of non-traumatic musculoskeletal disorders.

	37.02 Discuss various non-traumatic musculoskeletal disorders such as: 37.02.01 osteomyelitis and tumors 37.02.02 disc disorders, lower back pain (cauda equine syndrome, sprain, strain.) 37.02.03 joint abnormalities 37.02.04 muscle abnormalities 37.02.05 overuse syndrome 37.02.06 soft tissue infections
38.0	**Diseases of the Eyes, Ears, Nose , and Throat :** Demonstrate a fundamental depth, foundational breadth of the assessment and management of common or major diseases of the eyes, ears, nose and throat for all age groups. –The student will be able to:
	38.01 Relate the anatomy and physiology of the eyes, ears, nose, and throat to the pathophysiology and assessment of patients with diseases of the eyes, ears, nose, and throat.
	38.02 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various eye diseases/injuries including: 38.02.01 Burns of eye and adnexa 38.02.02 Conjunctivitis 38.02.03 Corneal abrasions 38.02.04 Foreign body 38.02.05 Inflammation of the eyelid 38.02.06 Glaucoma 38.02.07 Hyphema 38.02.08 Iritis 38.02.09 Papilledema 38.02.10 Retinal detachment and defect 38.02.11 Cellulitis of orbit
	38.03 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various ear diseases/injuries including: 38.03.01 Foreign body 38.03.02 Impacted cerumen 38.03.03 Labyrinthitis 38.03.04 Meniere's disease 38.03.05 Otitis external and media 38.03.06 Perforated tympanic membrane
	38.04 Discuss the pathophysiology and demonstrate the assessment, and management of patients with various nose diseases/injuries including: 38.04.01 Epistaxis 38.04.02 Foreign body intrusion 38.04.03 Rhinitis 38.04.04 Sinusitis

	38.05 Discuss the pathophysiology and demonstrate the assessment, and management of patients with oropharynx/throat diseases/injuries including: 38.05.01 Dentalgia and dental abscess 38.05.02 Diseases of oral soft tissue/ Ludwig's angina 38.05.03 Foreign body intrusion 38.05.04 Epiglottitis 38.05.05 Laryngitis 38.05.06 Tracheitis 38.05.07 Oral candidiasis 38.05.08 Peritonsillar abscess 38.05.09 Pharyngitis/tonsillitis 38.05.10 Temporomandibular joint disorders
39.0	**Shock and Resuscitation:** Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure. –The student will be able to:
	39.01 Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.
	39.02 Review the anatomy and physiology of the cardiovascular and respiratory systems.
	39.03 Discuss the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.
	39.04 Discuss and demonstrate the assessment and management of shock.
	39.05 Review and demonstrate the management of external hemorrhage.
	39.06 Differentiate between the administration rate and amount of IV fluid in a patient with controlled versus uncontrolled hemorrhage.
	39.07 Relate internal hemorrhage to the assessment findings of compensated and decompensated hemorrhagic shock.
	39.08 Review the following for the cardiac arrest victim: 39.08.01 Epidemiology 39.08.02 Pathophysiology 39.08.03 Physiology of blood flow during external chest compressions 39.08.04 Resuscitation success/research
	39.09 Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.

	39.10 Discuss causes, pathophysiology and management of special arrest and peri-arrest conditions: 39.10.01 Electrolyte disorders 39.10.02 Toxic exposures 39.10.03 Drowning 39.10.04 Hypothermia 39.10.05 Near-Fatal Asthma 39.10.06 Anaphylaxis 39.10.07 Trauma 39.10.08 Pregnancy 39.10.09 Electrical Shock and lightning strikes
	39.11 Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
	39.12 Discuss and demonstrate the assessment and management of internal hemorrhage.
	39.13 Discuss the stages and classifications of hemorrhage
	39.14 Discuss the pathophysiology and demonstrate the assessment and management of the different types of shock
	39.15 Describe the effects of decreased perfusion at the capillary level.
	39.16 Relate pulse pressure changes to perfusion status.
	39.17 Relate orthostatic vital sign changes to perfusion status.
	39.18 Define and differentiate between compensated and decompensated shock for all types of shock.
	39.19 Discuss the complications of shock
	39.20 Discuss and differentiate the physiological manifestations of shock across the age continuum.
	39.21 Differentiate between the normotensive, hypotensive, or profoundly hypotensive patient.
	39.22 Differentiate between the administration of fluid in the normotensive, hypotensive, or profoundly hypotensive patient.
	39.23 Develop, execute and evaluate a treatment plan based on the field impression for the hemorrhage or shock patient.
	39.24 Discuss the destination decision for patients in varying types of shock.
	39.25 Demonstrate how to manage a patient suffering from an abnormal heart rate or rhythm.
40.0	**Trauma Overview:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	40.01 Discuss the incidence, morbidity, and mortality of blast injuries.
	40.02 Predict blast injuries based on mechanism of injury, including primary, secondary and tertiary.

	40.03 Discuss the effects of an explosion within an enclosed space on a patient.
	40.04 Defend the components of a comprehensive trauma system and the levels of trauma centers.
	40.05 Describe the criteria for transport to a trauma center.
	40.06 Explain the rational for utilizing air medical transport in the trauma patient.
	40.07 Review energy and force as they relate to trauma.
	40.08 Explain laws of motion and energy and apply the kinetic energy equation.
	40.09 Describe the pathophysiology of the head, spine, thorax, and abdomen that result from the above forces.
	40.10 List suspected injuries from the different causes of trauma: 40.10.01 Motor vehicles (restrained and un-restrained) 40.10.02 Frontal/head on 40.10.03 Lateral or side impacts 40.10.04 Rear impacts 40.10.05 Rotational impacts 40.10.06 Rollovers 40.10.07 Motorcycles 40.10.08 Pedestrian (include the differences for pediatric patient) 40.10.09 Falls from heights 40.10.10 Penetrating 40.10.11 Blasts
	40.11 Discuss and demonstrate the State of Florida's trauma scorecard methodologies as required by Florida Administrative Code and Florida Statute
	40.12 Explain the National Trauma Triage Protocol of Injured Patients
41.0	**Bleeding:** Demonstrate a complex depth, comprehension breadth of pathophysiology, assessment and management of bleeding for all age groups. –The student will be able to:
	41.01 Discuss the compensatory mechanism in hemorrhagic shock.
	41.02 Discuss the administration of medications to assist in the maintenance of homeostasis.
	41.03 Discuss the maintenance of tissue oxygenation in a bleeding patient.
	41.04 Defend and differentiate the type and use of IV fluids for fluid resuscitation in hemorrhagic shock.
	41.05 Demonstrate the different methods/modalities of controlling bleeding.
42.0	**Chest Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of chest trauma for all age groups. –The student will be able to:

42.01 Review the anatomy and physiology of the organs and structures related to thoracic injuries.

42.02 Review the pathophysiology and Mechanism of Injury (MOI) of the following injuries, including:

- 42.02.01 Myocardial injuries
  - 42.02.01.1 pericardial tamponade
  - 42.02.01.2 myocardial contusion
  - 42.02.01.3 myocardial rupture
- 42.02.02 Vascular injury
  - 42.02.02.1.1 Aortic Dissection
  - 42.02.02.1.2 Pulmonary contusion
- 42.02.03 Hemothorax
- 42.02.04 Pneumothorax
- 42.02.05 Hemopneumothorax
- 42.02.06 Cardiac Tamponade
- 42.02.07 Commotio Cordis
- 42.02.08 Tracheobronchial disruption
- 42.02.09 Diaphragmatic rupture and injury
- 42.02.10 Tramatic asphyxia
- 42.02.11 Rib fracture
- 42.02.12 Flail segment
- 42.02.13 Sternal fracture

42.03 Discuss and demonstrate the assessment and management of the patient for each the following:

- 42.03.01 thoracic injuries.
- 42.03.02 chest wall injuries.
- 42.03.03 lung injuries.
- 42.03.04 myocardial injuries.
- 42.03.05 vascular injuries.
- 42.03.06 diaphragmatic injuries.
- 42.03.07 tracheo-bronchial injuries
- 42.03.08 traumatic asphyxia.

42.04 Identify the need for rapid intervention and transport of the patient for each of the following:

- 42.04.01 thoracic injuries.
- 42.04.02 chest wall injuries.
- 42.04.03 lung injuries.
- 42.04.04 myocardial injuries.
- 42.04.05 vascular injuries.
- 42.04.06 diaphragmatic injuries.
- 42.04.07 esophageal injuries
- 42.04.08 tracheo-bronchial injuries
- 42.04.09 traumatic asphyxia.

42.05 Assist with the insertion of a chest tube and when in place monitor and manage chest tube patency.

	42.06 Discuss and demonstrate the assessment and management of a patient with a thoracic injury.
	42.07 Integrate the pathophysiological principles to the assessment of a patient with a thoracic injury.
	42.08 Develop a patient management plan based on the field impression.
	42.09 Recognize the need for the use of a thorough assessment to determine a differential diagnosis and treatment plan for thoracic trauma.
	42.10 Demonstrate a clinical assessment for a patient with suspected thoracic trauma.
	42.11 Demonstrate the following techniques of management for thoracic injuries: Needle decompression, Fracture stabilization, Elective intubation, ECG monitoring , Oxygenation and ventilation
43.0	**Abdominal and Genitourinary Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of organs and structures related to abdominal injuries.
	43.02 Discuss the abdominal vascular structures
	43.03 Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
	43.04 Discuss and explain the pathophysiology for: 43.04.01 Pelvic fractures. 43.04.02 Solid organ injuries 43.04.03 Hollow organ injuries 43.04.04 Abdominal vascular injuries 43.04.05 Retroperitoneal space (kidneys) 43.04.06 Genitourinary system
	43.05 Describe and demonstrate the assessment and management for: 43.05.01 Pelvic fractures. 43.05.02 Solid organ injuries 43.05.03 Hollow organ injuries 43.05.04 Abdominal vascular injuries 43.05.05 Retroperitoneal space (kidneys) 43.05.06 Genitourinary system
	43.06 Develop a patient management plan for a patient with abdominal injuries, based upon field impression.
	43.07 Describe the epidemiology, including the morbidity/mortality and prevention strategies for abdominal vascular injuries.
	43.08 Integrate the pathophysiological principles to the assessment of a patient with abdominal injuries
	43.09 Develop and demonstrate the management of a patient with an impaled object, evisceration and shock.

	43.10 Discuss the variations in symptoms, signs and treatment of patients across the ages
	43.11 Discuss the emotional treatment associated with abdominal and genitourinary injuries.
44.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology of the musculoskeletal system, include the healing process.
	44.02 Discuss types of musculoskeletal injuries: 44.02.01 fracture (open and closed – epiphyseal, greenstick, and torus), 44.02.02 dislocation/fracture, 44.02.03 sprain 44.02.04 strain
	44.03 Discuss the pathophysiology and potential complications of orthopedic injuries.
	44.04 Discuss and demonstrate the patient assessment techniques and findings for orthopedic injuries.
	44.05 Explain the 6 “P” orthopedic injury assessment
	44.06 Discuss the general guidelines for management of orthopedic injuries: 44.06.01 Heat therapy 44.06.02 Cold therapy 44.06.03 Splinting 44.06.04 Medication administration (analgesics and anxiolytics)
	44.07 Discuss the pathophysiology of open and closed fractures.
	44.08 Discuss and demonstrate the assessment and management of specific orthopedic injuries: 44.08.01 Shoulder girdle 44.08.02 Humeral fractures 44.08.03 Elbow 44.08.04 Forearm 44.08.05 Wrist and Hand 44.08.06 Pelvis 44.08.07 Hip 44.08.08 Femoral shaft 44.08.09 Knee 44.08.10 Tibia and Fibula 44.08.11 Ankle 44.08.12 Calcaneus

	44.09 Discuss the pathophysiology and management of dislocations: 44.09.01 Shoulder girdle 44.09.02 Elbow 44.09.03 Wrist and hand 44.09.04 Hand 44.09.05 Hip 44.09.06 Knee
	44.10 Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment.
	44.11 Explain the importance of manipulating a knee dislocation/fracture with an absent distal pulse.
	44.12 Define luxation and subluxation
	44.13 Discuss and demonstrate the assessment and management of sprains and strains
	44.14 Review the pathophysiology and mechanism of injury for compartment and crush syndrome
	44.15 Discuss and demonstrate the assessment and management of compartment and crush syndrome: 44.15.01 Destination decision 44.15.02 Rhabodomylysis
	44.16 Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder and Achilles.
	44.17 Develop a patient management plan for the musculoskeletal injury based on the field impression.
	44.18 Recognize the use of pain management in the treatment of musculoskeletal injuries.
45.0	**Soft Tissue Trauma:** Demonstrate a complex depth, comprehensive breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
	45.01 Review anatomy and physiology and identify the major functions of the integumentary system.
	45.02 Discuss the pathophysiology of soft tissue injuries and the healing process including: 45.02.01 Inflammation 45.02.02 Epithelialization 45.02.03 Neurovascularization 45.02.04 Collagen Synthesis 45.02.05 Alterations in would healing 45.02.06 Abnormal scar formation
	45.03 Differentiate between the following types of closed soft tissue injuries: contusions, hematoma and crush injuries.
	45.04 Review the assessment findings and management associated with closed soft tissue injuries.
	45.05 Differentiate between the following types of open soft tissue injuries: abrasions, lacerations, major arterial lacerations, avulsions, impaled objects, amputations, incisions, crush injuries, blast injuries, and penetrations/punctures.

45.06	Review the pathophysiology of open wounds.
45.07	Review between the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: direct pressure, pressure dressing, and tourniquet application.
45.08	Integrate pathophysiological principles to the assessment of a patient with a soft tissue injury and synthesize and demonstrate a treatment plan
45.09	Formulate treatment priorities for patients with soft tissue injuries in conjunction with airway/face/neck trauma, thoracic trauma (open/closed), and abdominal trauma.
45.10	Defend the rationale explaining why immediate life-threats must take priority over wound closure.
45.11	Demonstrate the proper use of any Morgantype lens for irrigation of the eye.
45.12	Describe the epidemiology, including incidence, mortality/ morbidity, risk factors, and prevention strategies for the patient with a burn injury.
45.13	Describe the pathophysiologic complications and systemic complications of a burn injury.
45.14	Review and describe types of burn injuries, including a thermal burn, an inhalation burn, a chemical burn, an electrical burn, and a radiation exposure.
45.15	Review and describe the depth classifications of burn injuries, including a superficial burn, a partial-thickness burn, a full-thickness burn, and other depth classifications described by local protocol.
45.16	Demonstrate the methods for determining body surface area percentage of a burn injury including the "rules of nines," the "rules of palms," and other methods described by local protocol.
45.17	Review and describe the severity of a burn including a minor burn, a moderate burn, a severe burn, and other severity classifications described by local protocol.
45.18	Describe special considerations for a pediatric patient with a burn injury.
45.19	Discuss conditions associated with burn injuries, including: 45.19.01 Trauma 45.19.02 blast injuries 45.19.03 airway compromise 45.19.04 respiratory compromise 45.19.05 child abuse
45.20	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
45.21	Describe the pathophysiology of a thermal burn injury.
45.22	Describe the pathophysiology and assessment findings of a burn from the following causes: 45.22.01 Inhalation 45.22.02 Chemicals 45.22.03 electricity

	45.23 Describe and demonstrate the assessment and management of a thermal, inhalation, electrical and chemical burn injury and radiation exposure, including: 45.23.01 airway and ventilation 45.23.02 circulation 45.23.03 pharmacological, non-pharmacological 45.23.04 transport considerations 45.23.05 psychological support/ communication strategies
	45.24 Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.
	45.25 Describe the pathophysiology of a radiation exposure, including the types and characteristics of ionizing radiation.
	45.26 Identify and describe the severity of a radiation exposure.
	45.27 Develop, execute and evaluate a management plan based on the field impression for the patient with thermal, inhalation, chemical, electrical, and radiation burn injuries.
46.0	**Head, Face, Neck, and Spine:** Demonstrate a fundamental depth, foundational breadth of head, face, neck and spine trauma for all age groups. –The student will be able to:
	46.01 Differentiate between facial injuries based on the assessment and history.
	46.02 Relate assessment findings associated with head, facial and neck injuries to pathophysiology.
	46.03 Develop a patient management plan based on patient assessment and a field impression for injuries to the following areas: 46.03.01 Eye(s) 46.03.02 Nose 46.03.03 Throat/neck 46.03.04 Face 46.03.05 Mouth 46.03.06 Ear(s)
	46.04 Formulate a field impression for a patient with an injury for the following areas based on the assessment findings: 46.04.01 Eye(s) 46.04.02 Nose 46.04.03 Throat/neck 46.04.04 Face 46.04.05 Mouth 46.04.06 Ear(s)
	46.05 Distinguish between head injury and brain injury.
	46.06 Define and explain the process involved with each of the levels of increasing ICP.
	46.07 Identify the need for rapid intervention and transport of the patient with a head/brain injury.
	46.08 Describe and demonstrate the assessment and general management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.

46.09	Explain the pathophysiology of skull fracture and intracranial hemorrhage, including epidural, subdural, intracerebral, and subarachnoid.
46.10	Develop a management plan for a patient for each of the following conditions: 46.10.01 skull fracture 46.10.02 cerebral contusion 46.10.03 intracranial hemorrhage 46.10.04 epidural, subdural, intracerebral, and subarachnoid
46.11	Differentiate between traumatic and non-traumatic spinal injuries based on the assessment and history.
46.12	Describe the pathophysiology of non-traumatic spinal injury, including but not limited to, low back pain, herniated intervertebral disk and spinal cord tumors.
46.13	Describe and demonstrate the assessment and management of non- traumatic spinal injuries.
46.14	Describe the pathophysiology of traumatic spinal injury related to: 46.14.01 spinal shock 46.14.02 spinal neurogenic shock 46.14.03 quadriplegia/paraplegia, 46.14.04 Incomplete cord injury/cord syndromes, including central cord syndrome, anterior cord syndrome and Brown-Sequard syndrome.
46.15	Discuss and demonstrate the assessment and management of spine trauma including dislocations/subluxations, fractures, and sprains/strains.
46.16	Develop a management plan for a patient with spine trauma including dislocations/subluxations, fractures, and sprains/strains.
46.17	Develop a patient management plan for both a traumatic and a non-traumatic spinal injury based on the field impression.
46.18	Demonstrate a clinical assessment to determine the proper management modality for a patient for both a suspected traumatic spinal injury and a non-traumatic spinal injury.
46.19	Demonstrate spinal motion restriction of the urgent and non-urgent patient with assessment findings of spinal injury from the following presentations: Supine, Prone, Semi-prone, Sitting, Standing
	46.19.01 Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.
46.20	Demonstrate various methods for stabilization and removal of a helmet.
46.21	Discuss and demonstrate the assessment and management of each of the following: 46.21.01 Perforated tympanic membranes. 46.21.02 orbital fracture 46.21.03 mandibular fractures
46.22	Develop a management plan for a patient for each of the following: 46.22.01 Perforated tympanic membranes. 46.22.02 orbital fracture 46.22.03 mandibular fractures

47.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of nervous system trauma for all age groups. –The student will be able to:
	47.01 Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.
	47.02 Discuss pathophysiology of the following nervous system injury including: 47.02.01 Cauda Equine syndrome 47.02.02 Peripheral nerve injuries 47.02.03 Intracerebral hemorrhages 47.02.04 Cranial fractures 47.02.05 Brain tissue injuries 47.02.06 Spinal cord injuries
	47.03 Discuss the mechanism of injury which would result in a nervous system injury.
	47.04 Discuss the specific assessment (s) for nervous system injuries including: 47.04.01 Brown-Sequard syndrome 47.04.02 Cauda Equine syndrome 47.04.03 Anterior cord syndrome 47.04.04 Central cord syndrome 47.04.05 Intracerebral hemorrhage
	47.05 Discuss the pathophysiology of a traumatic brain injury and spinal shock.
	47.06 Develop a management plan for a patient with traumatic brain injury and spinal shock
	47.07 Synthesize and demonstrate the spinal motion restriction technique for the different spinal cord injuries.
	47.08 Discuss the research involving the management of nervous system injuries and patient management.
48.0	**Special Considerations in Trauma:** Demonstrate a complex depth, comprehensive breadth of special considerations in trauma for all age groups. –The student will be able to:
	48.01 All trauma objectives should integrate the assessment and management differences associated with the following special populations: 48.01.01 Pregnancy 48.01.02 Pediatric 48.01.03 Geriatric 48.01.04 Cognitively impaired
49.0	**Environmental Emergencies:** Demonstrate a complex depth, comprehensive breadth of environmental emergencies for all age groups. – The student will be able to:
	49.01 Define "environmental emergency."

49.02	Discuss the pathophysiology and MOI of the following: 49.02.01 Drowning and water related incidents 49.02.02 temperature-related illness 49.02.03 bites and envenomation 49.02.04 dysbarism such as high-altitude edema 49.02.05 diving injuries 49.02.06 lightning (electrical) injury 49.02.07 high altitude illness
49.03	Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.
49.04	Describe several methods of temperature monitoring.
49.05	Identify the components of the body's thermoregulatory mechanism.
49.06	Describe the general process of thermal regulation, including substances used and wastes generated.
49.07	Describe the body's compensatory process for overheating.
49.08	Discuss and list the common forms of heat and cold disorders.
49.09	Discuss the pathophysiology of temperature related illness
49.10	Relate symptomatic findings to the commonly used terms: heat cramps, heat exhaustion, and heatstroke.
49.11	Describe the contribution of dehydration to the development of heat disorders.
49.12	Describe the differences between classical and exertional heatstroke.
49.13	Define fever and discuss its pathophysiologic mechanism.
49.14	Discuss the role of fluid therapy in the treatment of temperature related emergencies
49.15	Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has dehydration, heat exhaustion, or heatstroke.
49.16	Identify differences between mild, severe, chronic and acute hypothermia
49.17	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient who has either mild or severe hypothermia.
49.18	Define frostbite and superficial frostbite (frostnip).
49.19	Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with superficial or deep frostbite.
49.20	Define submersion

49.21	List signs and symptoms of submersion
49.22	Describe the lack of significance of fresh versus saltwater immersion, as it relates to submersion
49.23	Discuss the incidence of "wet" versus "dry" drownings and the differences in their management.
49.24	Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the submersion patient.
49.25	Define self-contained underwater breathing apparatus (SCUBA).
49.26	Discuss the pathophysiology of diving emergencies including: 49.26.01 decompression illness/sickness 49.26.02 Altitude Illnesses 49.26.03 Pulmonary Over Pressurization Syndrome (POPS) 49.26.04 Arterial Gas Embolism
49.27	Relate the gas laws to the pathology of injury in a submersion emergency
49.28	List signs and symptoms of diving emergencies.
49.29	Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
49.30	Differentiate among the various treatments and interventions for the management of diving accidents.
49.31	Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
49.32	Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a management plan for the patient who has had a diving accident.
49.33	Develop a patient management plan based on the field impression of the patient affected by an environmental emergency.
49.34	Discuss the pathophysiology of bites and envenomation including: 49.34.01 Hymenoptera 49.34.02 Snake bites 49.34.03 Spider Bites 49.34.04 Scorpion stings 49.34.05 Tick Bites
49.35	Discuss and demonstrate the assessment and management of: 49.35.01 Hymenoptera 49.35.02 Snake bites 49.35.03 Spider Bites 49.35.04 Scorpion stings 49.35.05 Tick Bites
49.36	Relate the assessment of bites and envenomation to the immune response and shock

Course Number: EMS0212 **Occupational Completion Point: A** **Paramedic III – 426 hours – SOC Code 29-2041**	
50.0	**Multi-Systems Trauma:** Demonstrate a complex depth, comprehensive breadth of multi-system trauma and blast injuries. –The student will be able to:
	50.01 Demonstrate the priority of care in the multisystem trauma patient
	50.02 Explain which ALS interventions should occur prior to a transport decision and during transport
51.0	**Obstetrics:** Demonstrate a complex depth, comprehensive breadth of the management of the obstetric patient within the scope of practice of the paramedic. –The student will be able to:
	51.01 Review the anatomic structures and physiology of the reproductive system.
	51.02 Identify and describe the normal events of pregnancy.
	51.03 Describe and demonstrate how to assess an obstetrical patient.
	51.04 Identify and describe the stages of labor and the paramedic's role in each stage.
	51.05 Differentiate between normal and abnormal delivery.
	51.06 Identify and describe complications associated with pregnancy and delivery.
	51.07 State indications of an imminent delivery.
	51.08 Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	51.09 State the steps to assist in the delivery of a neonate including preparation of the mother.
	51.10 Describe and demonstrate how to care for the neonate.
	51.11 Describe how and when to cut the umbilical cord.
	51.12 Discuss the steps in the delivery of the placenta.
	51.13 Demonstrate how to prepare the obstetric patient for delivery.
	51.14 Demonstrate how to assist in the normal cephalic delivery of the fetus.
	51.15 Demonstrate how to deliver the placenta.
	51.16 Describe and demonstrate the management of the mother post-delivery.

	51.17 Describe and demonstrate the procedures for handling abnormal deliveries.
	51.18 Describe and demonstrate the procedures for handling complications of pregnancy including excessive vaginal bleeding, abdominal pain and hypertensive crisis
	51.19 Describe and demonstrate the procedures for handling maternal complications of labor.
	51.20 Describe special considerations when meconium is present in amniotic fluid or during delivery.
	51.21 Describe special considerations of a premature baby.
52.0	**Neonatal Care:** Demonstrate a complex depth, comprehensive breadth of the management of the neonatal patient within the scope of practice of the paramedic. –The student will be able to:
	52.01 Define the term neonate.
	52.02 Identify antepartum factors that can affect childbirth.
	52.03 Identify intrapartum factors that can term the neonate “high risk”.
	52.04 Identify the factors that lead to premature birth and low birth weight neonates.
	52.05 Discuss pulmonary perfusion and asphyxia.
	52.06 Calculate the APGAR score given various neonate situations.
	52.07 Demonstrate appropriate assessment technique for examining a neonate.
	52.08 Determine when ventilatory assistance is appropriate for a neonate.
	52.09 Prepare appropriate ventilation equipment, adjuncts and technique for a neonate.
	52.10 Determine when chest compressions are appropriate for a neonate.
	52.11 Discuss and demonstrate appropriate chest compression techniques for a neonate.
	52.12 Determine when endotracheal intubation is appropriate for a neonate.
	52.13 Discuss and demonstrate appropriate endotracheal intubation techniques for a neonate.
	52.14 Identify complications related to endotracheal intubation for a neonate.
	52.15 Determine when vascular access is indicated for a neonate.
	52.16 Discuss the routes of medication administration for a neonate.
	52.17 Determine when blow-by oxygen delivery is appropriate for a neonate.

52.18	Demonstrate blow-by oxygen delivery for a neonate.
52.19	Determine when an orogastric tube should be inserted during positive-pressure ventilation.
52.20	Demonstrate insertion of an orogastric tube in a neonate.
52.21	Discuss the signs of hypovolemia in a neonate.
52.22	Demonstrate preparation of a neonate resuscitation area.
52.23	Discuss and demonstrate the initial steps in resuscitation of a neonate.
52.24	Demonstrate appropriate assisted ventilations for a neonate.
52.25	Demonstrate appropriate endotracheal intubation technique for a neonate.
52.26	Demonstrate appropriate chest compression and ventilation technique for a neonate.
52.27	Discuss the effects maternal narcotic usage has on the neonate.
52.28	Discuss appropriate transport guidelines for a neonate.
52.29	Determine appropriate receiving facilities for low and high risk neonates.
52.30	Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for meconium aspiration.
52.31	Discuss and demonstrate the assessment and management of meconium aspiration.
52.32	Discuss the pathophysiology of apnea in the neonate.
52.33	Discuss and demonstrate the assessment and management for apnea in the neonate.
52.34	Describe the epidemiology, including the incidence, morbidity/ mortality and risk factors for bradycardia in the neonate.
52.35	Discuss and demonstrate the assessment and management for bradycardia in the neonate.
52.36	Discuss the pathophysiology of premature infants.
52.37	Discuss and demonstrate the assessment and management for premature infants.
52.38	Discuss the pathophysiology of respiratory distress/ cyanosis in the neonate.
52.39	Discuss and demonstrate the assessment and management for respiratory distress/ cyanosis in the neonate.
52.40	Discuss the pathophysiology of seizures in the neonate.

52.41	Discuss and demonstrate the assessment and management for seizures in the neonate.
52.42	Discuss the pathophysiology of fever in the neonate.
52.43	Discuss and demonstrate the assessment and management for fever in the neonate.
52.44	Discuss the pathophysiology of hypothermia in the neonate.
52.45	Discuss and demonstrate the assessment and management for hypothermia in the neonate.
52.46	Discuss the pathophysiology of hypoglycemia in the neonate.
52.47	Discuss and demonstrate the assessment and management plan for hypoglycemia in the neonate.
52.48	Discuss the pathophysiology of vomiting in the neonate.
52.49	Discuss and demonstrate the assessment and management for vomiting in the neonate.
52.50	Discuss the pathophysiology of common birth injuries in the neonate.
52.51	Discuss and demonstrate the assessment and management for common birth injuries in the neonate.
52.52	Discuss the pathophysiology of cardiac arrest in the neonate.
52.53	Discuss and demonstrate the assessment and management/treatment plan for cardiac arrest in the neonate.
52.54	Discuss the pathophysiology of post arrest management of the neonate.
52.55	Discuss and demonstrate the management to stabilize the post arrest neonate.
52.56	Demonstrate vascular access cannulation techniques for a newborn except umbilical vein/artery access.
53.0	**Pediatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the pediatric patient within the scope of practice of the paramedic. –The student will be able to:
53.01	Review key growth and developmental characteristics of infants and children and their implications.
53.02	Identify key anatomical and physiological characteristics of infants and children and their implications.
53.03	Describe and demonstrate techniques for successful assessment and treatment of infants and children.
53.04	Outline differences in adult and childhood anatomy and physiology.
53.05	Identify "normal" age group related vital signs.
53.06	Determine appropriate airway adjuncts for infants and children.

53.07	Discuss complications of improper utilization of airway adjuncts with infants and children.
53.08	Discuss and demonstrate appropriate ventilation devices for infants and children.
53.09	Discuss complications of improper utilization of ventilation devices with infants and children.
53.10	Identify complications of improper endotracheal intubation procedure in infants and children.
53.11	List the indications and methods for gastric decompression for infants and children.
53.12	Differentiate between upper airway obstruction and lower airway disease.
53.13	Describe the general approach to the treatment of children with respiratory distress, failure, or arrest from upper airway obstruction or lower airway disease.
53.14	Discuss the common causes of hypoperfusion in infants and children.
53.15	Identify the major causes of abnormal cardiac rhythms in infants and pediatric.
53.16	Discuss the primary etiologies of cardiopulmonary arrest in infants and children.
53.17	Discuss the appropriate equipment for vascular access in infants and children.
53.18	Identify complications of vascular access for infants and children.
53.19	Describe the primary etiologies of altered level of consciousness in infants and children.
53.20	Identify common lethal mechanisms of injury in infants and children.
53.21	Identify infant and child trauma patients who require spinal immobilization.
53.22	Discuss and demonstrate fluid management and shock treatment for infant and child trauma patient.
53.23	Determine when pain management and sedation are appropriate for infants and children.
53.24	Define child abuse and child neglect
53.25	Review mandatory reporting requirements for child abuse/neglect
53.26	Define children with special health care needs.
53.27	Review basic cardiac life support (CPR) guidelines for infants and children.
53.28	Integrate advanced life support skills with basic cardiac life support for infants and children.
53.29	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.

53.30	Discuss the pathophysiology of respiratory distress/failure in infants and children.
53.31	Discuss and demonstrate the assessment and management for respiratory distress/failure in infants and children.
53.32	Discuss the pathophysiology of hypoperfusion in infants and children.
53.33	Discuss and demonstrate the assessment and management for hypoperfusion in infants and children.
53.34	Discuss the pathophysiology of cardiac dysrhythmias in infants and children.
53.35	Discuss and demonstrate the assessment and management for cardiac dysrhythmias in infants and children.
53.36	Discuss the pathophysiology of neurological emergencies in infants and children.
53.37	Discuss and demonstrate the assessment and management for neurological emergencies in infants and children.
53.38	Discuss the pathophysiology of trauma in infants and children.
53.39	Discuss and demonstrate the assessment and management for trauma in infants and children.
53.40	Discuss the pathophysiology of abuse and neglect in infants and children.
53.41	Discuss and demonstrate the assessment and management for abuse and neglect in infants and children, including documentation and reporting.
53.42	Discuss the pathophysiology of children with special health care needs including technology assisted children.
53.43	Discuss and demonstrate the assessment and management for children with special health care needs including technology assisted children.
53.44	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
53.45	Discuss the parent/caregiver responses to the death of an infant or child.
53.46	Discuss the pathophysiology of SUIDS in infants.
53.47	Discuss the assessment findings associated with SUIDS infants.
53.48	Discuss the management/treatment plan for SUIDS in infants.
53.49	Discuss and demonstrate the use of a length-based resuscitation device for determining equipment sizes, drug doses and other pertinent information for a pediatric patient.
53.50	Demonstrate appropriate treatment/management of intubation complications for infants and children.
53.51	Demonstrate appropriate needle cricothyrootomy in infants and children.
53.52	Demonstrate proper placement of a gastric tube in infants and children.

	53.53 Demonstrate an appropriate technique for insertion of peripheral intravenous catheters for infants and children.
	53.54 Demonstrate an appropriate technique for administration of intramuscular, inhalation, subcutaneous, rectal, endotracheal and oral medication for infants and children.
	53.55 Demonstrate an appropriate technique for insertion of an intraosseous line for infants and children.
	53.56 Demonstrate proper technique for direct larnyngoscopy and foreign body retrieval in infants and children with a completely obstructed airway.
	53.57 Demonstrate appropriate spinal motion restriction techniques for infant and child trauma patients.
	53.58 Demonstrate treatment of infants and children with the following injuries: 53.58.01 head injuries. 53.58.02 Chest injuries 53.58.03 Abdominal injuries 53.58.04 Extremity injuries 53.58.05 Burns
	53.59 Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
	53.60 Demonstrate proper infant and child CPR integrating ALS as appropriate
	53.61 Demonstrate proper techniques for performing infant and child defibrillation and synchronized cardioversion.
54.0	**Geriatrics:** Demonstrate a complex depth, comprehensive breadth of the management of the geriatric patient within the scope of practice of the paramedic. –The student will be able to:
	54.01 Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	54.02 Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	54.03 Discuss factors that may complicate the assessment of the elderly patient.
	54.04 Describe principles that should be employed when assessing and communicating with the elderly.
	54.05 Discuss common complaints of elderly patients.
	54.06 Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
	54.07 Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
	54.08 Discuss and demonstrate the assessment and management of the elderly patient with pulmonary complaints, including: 54.08.01 pneumonia 54.08.02 chronic obstructive pulmonary diseases 54.08.03 pulmonary embolism.
	54.09 Identify the need for intervention and transport of the elderly patient with pulmonary complaints.

	54.10 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the cardiovascular system, including: 54.10.01 myocardial infarction 54.10.02 heart failure 54.10.03 dysrhythmias 54.10.04 aneurism 54.10.05 hypertension.
	54.11 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the nervous system, including: 54.11.01 cerebral vascular disease 54.11.02 delirium 54.11.03 dementia 54.11.04 Alzheimer's disease 54.11.05 Parkinson's disease.
	54.12 Describe the epidemiology for endocrine diseases in the elderly, including incidence, morbidity/mortality, risk factors, and prevention strategies for patients with diabetes and thyroid diseases.
	54.13 Discuss and demonstrate the assessment and management of the elderly patient with complaints related to the endocrine system, including diabetes and thyroid diseases.
	54.14 Discuss and demonstrate the assessment and management of the elderly patient with the following: 54.14.01 gastrointestinal problems. 54.14.02 toxicological problems 54.14.03 orthopedic injuries, burns and head injuries 54.14.04 drug and alcohol abuse 54.14.05 environmental considerations 54.14.06 depression or suicide risk factors
	54.15 Demonstrate the ability to adjust assessment to a geriatric patient.
	54.16 Discuss the epidemiology of herpes zoster and inflammatory arthritis in the elderly
55.0	**Patients with Special Challenges:** Demonstrate a complex depth, comprehensive breadth of management of the patient with special challenges within the scope of practice of the paramedic. –The student will be able to:
	55.01 Discuss the incidence of abuse and assault.
	55.02 Describe the categories of abuse.
	55.03 Discuss examples of each of the following: 55.03.01 Domestic partner abuse 55.03.02 elder abuse 55.03.03 child abuse 55.03.04 sexual assault

55.04	Describe the characteristics associated with the profile of the typical abuser of: 55.04.01 domestic abuser 55.04.02 elder abuser 55.04.03 child abuser
55.05	Describe the characteristics associated with the profile of the typical assailant of sexual assault.
55.06	Identify the profile of the "at-risk" domestic partner, "at-risk" elder and "at-risk" child.
55.07	Discuss the legal aspects associated with abuse situations including mandatory reporting.
55.08	Discuss the documentation associated with abused and assaulted patient.
55.09	Demonstrate the ability to assess and manage a domestic partner, elder or child abused patient.
55.10	Demonstrate the ability to assess and manage a sexually assaulted patient.
55.11	Recognize the patient with a hearing impairment.
55.12	Anticipate accommodations that may be needed in order to properly manage the patient with a hearing impairment.
55.13	Recognize the patient with a visual impairment.
55.14	Anticipate accommodations that may be needed in order to properly manage the patient with a visual impairment
55.15	Describe the various etiologies and types of speech impairments.
55.16	Recognize the patient with a speech impairment.
55.17	Describe paraplegia/quadriplegia.
55.18	Describe the various etiologies of mental illness.
55.19	Recognize the presenting signs of the following: 55.19.01 mental illnesses 55.19.02 Developmental disability 55.19.03 Down’s syndrome
55.20	Describe the various etiologies of emotional impairment.
55.21	Recognize the patient with an emotional impairment.

55.22	Describe the following diseases/illnesses and identify each of their possible presenting signs: 55.22.01 Arthritis, 55.22.02 Cancer, 55.22.03 Cerebral palsy, 55.22.04 Cystic fibrosis 55.22.05 Multiple sclerosis, 55.22.06 Muscular dystrophy, 55.22.07 Myasthenia gravis, 55.22.08 Poliomyelitis, 55.22.09 Spina bifida, 55.22.10 patients with a previous head injury
55.23	Identify a patient that is terminally ill.
55.24	Recognize sign(s) of financial impairments.
55.25	Identify the importance of home health care medicine as related to the ALS level of care.
55.26	Differentiate between the role of EMS provider and the role of the home care provider.
55.27	Discuss the aspects of home care that result in enhanced quality of care for a given patient.
55.28	Discuss the aspects of home care that have a potential to become a detriment to the quality of care for a given patient.
55.29	List complications commonly seen in the home care patients, which result in their hospitalization.
55.30	Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
55.31	List the stages of the grief process and relate them to an individual in hospice care.
55.32	Given a series of home care scenarios, determine which patients should receive follow-up home care and which should be transported to an emergency care facility.
55.33	Describe airway maintenance devices typically found in the home care environment.
55.34	Describe devices that provide or enhance alveolar ventilation in the home care setting.
55.35	Describe and access indwelling catheters, implanted central IV ports and central line monitoring.
55.36	Describe complications of assessing each of the airway, vascular access, and GI/GU devices described above.
55.37	Describe the indications and contraindications for urinary catheter insertion in an out-of-hospital setting.
55.38	Identify failure of GI/GU devices found in the home care setting.
55.39	Identify failure of ventilatory devices found in the home care setting.

	55.40 Identify failure of vascular access devices found in the home care setting.
	55.41 Identify and describe the failure of wound drains.
	55.42 Discuss the rights of the terminally ill.
	55.43 Observe for an infected or otherwise complicated venous access point.
	55.44 Demonstrate proper tracheotomy care.
	55.45 Demonstrate the insertion of a new inner cannula and/or the use of an endotracheal tube to temporarily maintain an airway in a tracheostomy patient.
	55.46 Demonstrate how to replace an ostomy tube.
56.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	56.01 Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
57.0	**Incident Management:** Demonstrate a complex depth, comprehensive breadth of establishing and working within the incident management system. –The student will be able to:
	57.01 Review the EMT standards and benchmarks for Incident Management and apply a complex depth and comprehensive breadth of establishing and working within the incident management system.
58.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:
	58.01 Review the EMT standards and benchmarks for Multiple Casualty Incidents.
59.0	**Air Medical:** Demonstrate a complex depth, comprehensive breadth of air medical transport risks, needs and advantages. –The student will be able to:
	59.01 Describe the advantages and disadvantages of air medical transport.
	59.02 Identify appropriate reasons for the use of air medical for emergency patient transport.
	59.03 Describe the risks involved with the use of air medical transport
	59.04 Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response
	59.05 Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel
60.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:
	60.01 Review the EMT standards and benchmarks for Vehicle Extrication.
61.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:

	61.01 Review the EMT standards and benchmarks for Hazardous Materials Awareness.
62.0	**Mass Casualty Incidents due to Terrorism and Disasters:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man- made disaster. –The student will be able to:
	62.01 Review the EMT standards and benchmarks for Mass Casualty Incidents.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Field internship shall include a competency-based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include supervised experience in the field setting with a certified ALS transport EMS agency or ALS fire department. Refer to 64J-1/20 for additional requirements of the field internship inside of the paramedic program.

Special Notes

This program is ONLY authorized to be offered by the following districts: Lake, Manatee, St. Johns, and Sarasota.

It is strongly recommended this program be accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs). Beginning January 1, 2013, National Registry for Emergency Medical Technicians (NREMT) will require students applying for Paramedic National certification to be from a CAAHEP/CoAEMSP accredited program.

The standard length of this program is 1100 clock hours or. This includes the Health Science Core (90 clock hours). The Student Performance Standards for Paramedic were adapted and condensed from the most current U S Department of Transportation, National EMS Educational Standards for the Paramedic. Administrators and instructors should refer to these materials for additional detail.

This program W170206 has a statewide articulation agreement approved by the Florida State Board of Education:

Emergency Medical Services AS (1351090402) – 42 credit hours

Students who have completed a Paramedic program at one of the grandfathered technical centers can enroll in a community college Emergency Medical Services-Associates Degree or PSV-C program within five years of their completion date. Students seeking credit after five years must show proof of current EMT or Paramedic licensure. Students entering the community college will receive the same credit as native PSV-C completers in these programs. Such students, however, must first meet the college's entry, residency, and academic requirements.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Basic Skills

In PSAV programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 10, Language 10, and Reading 10. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Emergency Medical Technician**
Program Type: **Career Preparatory**
Career Cluster: **Health Science**

This program is ONLY authorized to be offered at the following districts: Lake, Manatee, Palm Beach, St. Johns, Sarasota and Taylor.

PSAV	
Program Number	W170213 (This program is for use by Grandfathered Districts ONLY)
CIP Number	0351090414
Grade Level	30,31
Standard Length	300 hours
Teacher Certification	Refer to the **Program Structure** section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics
Basic Skills Level	N/A

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This is an instructional program that prepares students for employment as emergency medical technicians SOC Code 29-2041(Emergency Medical Technicians and Paramedics) to function at the basic pre-hospital emergency medical technician level and treat various medical/trauma conditions using appropriate equipment and materials.

The content includes but is not limited to : patient assessment, airway management, cardiac arrest, external and internal bleeding and shock, traumatic injuries, fractures, dislocations, sprains, poisoning, heart attack, stroke, diabetes, acute abdomen, communicable diseases, patients with abnormal behavior, alcohol and drug abuse, the unconscious state, emergency childbirth, burns, environmental hazards, communications,

reporting, extrication and transportation of patient. The student must be proficient in patient assessment and evaluation, the use of suctioning devices, oral and nasal airways, resuscitation devices, oxygen equipment, sphygmomanometer and stethoscope, splints of all types, pneumatic anti-shock garments, extrication tools, dressings and bandages, stretchers and patient carrying devices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 1 occupational completion point.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	EMS0110	Emergency Medical Technician (EMT)	PARAMEDIC @7 7G # EMT 7G # REG NURSE 7 G #PRAC NURSE @7 %7%G *(Must be a Registered Nurse)	300 hours	29-2041

 # These certifications can only be used for adjunct faculty. Please refer to 64J-1.201 F.A.C. for the EMS instructor qualifications.

Regulated Programs

The program prepares students for certification as EMT's in accordance with Chapter 64J of the Florida Administrative Code. The program must be approved by the Department of Health, Office of Emergency Medical Services, and the curriculum must adhere to the US Department of Transportation (DOT), National EMS Education Standards for EMT. This is the initial level for a career in emergency medical services and the primary prerequisite for paramedic training and certification.

This program meets the Department of Health trauma score card methodologies and SUIDS training education requirements. Upon completion of this program, the instructor will provide a certificate to the student verifying that these requirements have been met. This program also meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

Please refer to chapter 401 F.S. for more information on disqualification for the EMT license through the Office of Emergency Medical Services, Department of Health.

An EMT program must be taught by an instructor meeting the qualifications as set forth in 64J-1.0201 FAC.

An American Heart Association or Red Cross certification or equivalent in "professional" BLS is required of all candidates for entrance into an EMT program.

The Student Performance Standards for Emergency Medical Technician were adapted from the US Department of Transportation (DOT) National EMS Educational Standards for EMT.

Common Career Technical Core – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

2. Apply appropriate academic and technical skills.

3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively and with reason.

5. Consider the environmental, social and economic impacts of decisions.

6. Demonstrate creativity and innovation.

7. Employ valid and reliable research strategies.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

9. Model integrity, ethical leadership and effective management.

10. Plan education and career path aligned to personal goals.

11. Use technology to enhance productivity.

12. Work productively in teams while using cultural/global competence.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstration of a simple depth and foundational breadth of EMS systems.
02.0 Demonstration of a simple depth, simple breadth of research and evidence-based decision making.
03.0 Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness.
04.0 Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing.
05.0 Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication.
06.0 Demonstration of a simple depth and simple breadth of the principles of therapeutic communication.
07.0 Demonstration of a fundamental depth, foundational breadth of medical legality and ethics.
08.0 Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
09.0 Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms.
10.0 Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation.
11.0 Demonstrate the application of fundamental knowledge of life span development to patient assessment and management.
12.0 Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care.
13.0 Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency.
14.0 Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT.
15.0 Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT.
16.0 Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT.
17.0 Demonstrate a fundamental depth, foundational breadth of respiration.
18.0 Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation.
19.0 Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.**
20.0 Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations.
21.0 Demonstrate a fundamental depth, foundational breadth of the components of history taking.
22.0 Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment.
23.0 Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT.
24.0 Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations.
25.0 Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints.
26.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups.
27.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups.
28.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups.
29.0 Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups.

30.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups.
31.0 Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups.
32.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups.
33.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups.
34.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups.
35.0 Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups.
36.0 Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups.
37.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups.
38.0 Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups.
39.0 Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups.
40.0 Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure.
41.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups.
42.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups.
43.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups.
44.0 Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups.
45.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups.
46.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups.
47.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups.
48.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups.
49.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups.
50.0 Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups.
51.0 Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries.
52.0 Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT.

53.0 Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT.
54.0 Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT.
55.0 Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT.
56.0 Demonstrate a simple depth, simple breadth of management of the patient with special challenges.
57.0 Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport.
58.0 Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system.
59.0 Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident.
60.0 Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response.
61.0 Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools.
62.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident.
63.0 Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster.

Florida Department of Education
Student Performance Standards

Program Title: **Emergency Medical Technician**
PSAV Number: **W170213**

Course Number: EMS0110 **Occupational Completion Point: A** **Emergency Medical Technician – 300 Hours – SOC Code 29-2041**	
01.0	**EMS Systems:** Demonstration of a simple depth and foundational breadth of EMS systems. –The student will be able to:
01.01	Define Emergency Medical Services (EMS) systems.
01.02	Discuss the historical background of the development of the EMS system.
01.03	Identify the four levels of national EMS providers (EMR, EMT, AEMT and PM) as well as the three levels in the State of Florida.
01.04	Discuss the specific statutes and regulations regarding the EMS system in Florida.
01.05	Discuss vehicle and equipment readiness
01.06	Characterize the EMS system's role in prevention and public education.
01.07	Discuss the roles and responsibilities of the EMT related to personal safety of the crew, patient and by standers.
01.08	Discuss the roles and responsibilities of the EMT to operate emergency vehicles, provide scene leadership and perform patient assessment and administer emergency care.
01.09	Discuss the maintenance of certification and licensure for the EMT in the State of Florida and NREMT.
01.10	Define quality improvement and discuss the EMT's role in the process.
01.11	Identify the basics of common methods of payment for healthcare services.
01.12	Analyze attributes and attitudes of an effective leader.
01.13	Demonstrate effective techniques for managing team conflict.
01.14	Describe factors that influence the current delivery system of healthcare.
01.15	Discuss the importance of continuing medical education and skills retention.
01.16	Assess personal attitudes and demeanor that may distract from professionalism.

	01.17 Serve as a role model and exhibit professional behaviors in the following areas: 01.17.01 integrity 01.17.02 empathy 01.17.03 self-motivation 01.17.04 appearance and personal hygiene 01.17.05 self-confidence 01.17.06 communications (including phone, email and social media etiquette) 01.17.07 time management 01.17.08 teamwork and diplomacy 01.17.09 respect 01.17.10 patient advocacy (inclusive of those with special needs, alternate life styles and cultural diversity) 01.17.11 careful delivery of service
02.0	**Research:** Demonstration of a simple depth, simple breadth of research and evidence-based decision making. –The student will be able to:
	02.01 Discuss EMS research and evidence based decision making 02.01.01 Conduct scientific literature searches 02.01.02 Read, interpret and extract information from journal articles relevant to a project
	02.02 Explain the importance to assess and treat patients based on evidence based decision making.
	02.03 Interpret graphs, charts and tables.
	02.04 Measure time, temperature, distance, capacity, and mass/weight.
	02.05 Convert and use traditional and metric units.
	02.06 Make estimations, approximations and judge the reasonableness of the result.
	02.07 Convert time from a 12 hour format to a 24 hour format
	02.08 Demonstrate ability to evaluate and draw conclusions.
	02.09 Calculate ratios.
	02.10 Explain the rationale for the ems system gathering data.
03.0	**Workforce Safety and Wellness:** Demonstration of a fundamental depth, foundational breadth of workforce safety and wellness. –The student will be able to:
	03.01 Explain the need to determine scene safety.
	03.02 Discuss the importance of body substance isolation (BSI).
	03.03 Describe the steps the EMT should take for personal protection from airborne and blood borne pathogens as well as communicable disease.

03.04	List the personal protective equipment necessary to protect oneself in common emergency situations.
03.05	List possible emotional reactions that an individual (EMT and EMT family, Patient and Patient family) may experience when faced with trauma, illness, death and dying.
03.06	State the steps the EMT should take when approaching a family confronted with death and dying.
03.07	Recognize the warning signs of personal stress and discuss the strategies EMTs can apply to manage it.
03.08	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.09	Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
03.10	Describe the guidelines and safety precautions for carrying patients and/or equipment.
03.11	State the guidelines for reaching and their application.
03.12	State the guidelines for pushing and pulling.
03.13	Discuss patient positioning in common emergency situations.
03.14	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.15	Define “infectious disease” and “communicable disease.”
03.16	Describe the routes of transmission for infectious disease.
03.17	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.18	Explain how immunity to infectious diseases is acquired.
03.19	Explain post exposure management of exposure to patient blood or body fluids, including completing a post exposure report.
03.20	Describe the components of physical fitness and mental wellbeing.
03.21	Identify personal health practices and environmental factors which affect function of each of the major body systems.
03.22	Develop an awareness of complementary and alternative health practices.
03.23	Explain the basic concepts of positive self-image, wellness and stress.
03.24	Develop a wellness and stress control plan that can be used in personal and professional life.
03.25	Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture’s MyPlate food guide.)
03.26	Identify personal health practices and environmental factors which affect function of each of the major body systems.

	03.27 Demonstrate the safe use of medical equipment.
	03.28 Explain the theory of root- cause analysis.
	03.29 Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
	03.30 Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
	03.31 Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
	03.32 Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	**Documentation:** Demonstration of a fundamental depth, foundational breadth of the principles of medical documentation and report writing. –The student will be able to:
	04.01 Recognize applications of technology in healthcare.
	04.02 Demonstrate basic computer skills.
	04.03 Interpret and utilize information from electronic health records.
	04.04 Identify methods of communication to access and distribute data such as fax, e-mail and internet.
	04.05 Describe the use and importance of written communication and patient care documentation.
	04.06 Explain the legal implication of the patient care report.
	04.07 Identify the minimum dataset reference patient information and administrative information on the patient care report.
	04.08 Understand how to document refusal of care, including legal implications.
	04.09 Discuss the implications of the Health Insurance Portability and Accountability Act of 1996 on confidential documentation.
	04.10 Describe the special considerations concerning mass casualty incident documentation.
	04.11 Explain the relevance and importance of properly completed documentation.
	04.12 Demonstrate completion of a patient care report for a medical and trauma patient.
	04.13 Explain the rationale for patient care documentation.
05.0	**EMS System Communication:** Demonstration of a simple depth, simple breadth of the EMS communication system, communication with other health care professionals, and team communication. –The student will be able to:
	05.01 Understand the basic principles of the various types of communications equipment used in EMS
	05.02 Describe the use of radio communication and correct radio procedures, including the proper methods of initiating and terminating the radio call/transmission.

	05.03 Explain the rationale for providing efficient and effective radio communications and patient reports.
	05.04 Identify the essential components of the verbal report and legal aspects that need to be considered.
	05.05 Perform an organized and concise radio transmission.
	05.06 Perform an organized, concise patient report that would be given to the staff at a receiving facility.
	05.07 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT was already providing care.
06.0	**Therapeutic Communication:** Demonstration of a simple depth and simple breadth of the principles of therapeutic communication. –The student will be able to:
	06.01 Describe principles of therapeutic and effective communication with patients in a manner that achieves a positive relationship.
	06.02 Develop basic speaking and active listening skills.
	06.03 Recognize the importance of patient/client educations regarding healthcare.
	06.04 Demonstrate the adjustment of communication strategies to effectively communicate with patients with: 06.04.01 differing age groups 06.04.02 differing developmental stages 06.04.03 special needs 06.04.04 Differing cultures, including language barriers.
	06.05 Demonstrate the communication techniques that should be used to interact with the patient, patient family, bystanders, and individuals from other agencies including verbal diffusion and interview techniques.
	06.06 Demonstrate the strategies for interviewing persons in special situations.
	06.07 Distinguish between and respond to verbal and non-verbal cues.
	06.08 Analyze elements of communication using a sender-receiver/close loop model.
	06.09 Exhibit positive non-verbal behaviors.
	06.10 Establish proper patient rapport.
07.0	**Medical/Legal and Ethics:** Demonstration of a fundamental depth, foundational breadth of medical legality and ethics. –The student will be able to:
	07.01 Differentiate between expressed, implied and involuntary consent
	07.02 Discuss the methods of obtaining consent and procedures for minors.
	07.03 Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
	07.04 Discuss the implications for the EMT in patient refusal of care and/or transport.

	07.05 Explain the importance, necessity and legality of patient confidentiality.
	07.06 Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
	07.07 Discuss State of Florida and Federal special reporting situations including: 07.07.01 Abuse 07.07.02 sexual assault 07.07.03 gunshot and knife wounds 07.07.04 communicable disease
	07.08 Differentiate between civil tort and criminal actions
	07.09 List the elements of negligence and defenses/protections from liability.
	07.10 Discuss the role of the EMT at crime scenes and preservation of evidence.
	07.11 Define ethics and morality and discuss their implication for the EMT.
	07.12 Differentiate between licensure and certification as they apply to EMS.
	07.13 Discuss Florida legislation such as the Baker Act, Marchman Act, and the Emergency Examination and Treatment of Incapacitated Persons Act.
	07.14 Differentiate between the scope of practice and the standard of care as applied to the EMT.
	07.15 Discuss the legal concept of immunity, including Good Samaritan statutes and governmental immunity.
	07.16 Describe the appropriate patient management and care techniques in a refusal of care situation.
	07.17 Analyze the relationship between the law, morals and ethics in EMS and the premise that should under lie the EMTs ethical decisions.
	07.18 Describe the criteria necessary to honor an advance directive.
	07.19 Explain the rationale for the needs, benefits and varying degrees of advance directives.
08.0	**Anatomy and Physiology**: Demonstrate the application of fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. –The student will be able to:
	08.01 Label the following topographic terms: 08.01.01 Medial 08.01.02 lateral 08.01.03 proximal 08.01.04 distal 08.01.05 superior 08.01.06 inferior 08.01.07 anterior 08.01.08 posterior

	08.01.09 midline 08.01.10 right and left 08.01.11 mid-clavicular 08.01.12 bilateral 08.01.13 mid-axillary
08.02	Chart the life support chain, aerobic metabolism and anaerobic metabolism.
08.03	Define anatomy, physiology, pathophysiology and homeostasis.
08.04	Identify and describe the anatomical structures and functions of the following: 08.04.01 Skeletal system 08.04.02 Muscular system 08.04.03 Respiratory System 08.04.04 Circulatory/ Cardiovascular system 08.04.05 Nervous System 08.04.06 Integumentary system 08.04.07 Digestive system 08.04.08 Endocrine system including glands and hormones 08.04.09 Renal system 08.04.10 Reproductive system 08.04.11 Lymphatic System
08.05	Explain cellular anatomy and physiology.
08.06	Explain cellular respiration.
08.07	Discuss cell division.
08.08	Describe the different types of muscle tissues including skeletal, smooth and cardiac.
08.09	Describe the functions and divisions of the skeletal system including the classifications of bones.
08.10	Name and identify the location of the bones of the axial and appendicular skeleton.
08.11	Describe the classification and types of joints.
08.12	Describe the function of muscles.
08.13	Identify major muscles of the body
08.14	Describe the general function of the respiratory system and its structures.
08.15	Discuss the mechanisms of breathing including: 08.15.01 Mechanical Ventilation 08.15.02 Pulmonary volumes

	08.15.03	Dead space
	08.15.04	Lung compliance
08.16	Explain the diffusion of gases in external and internal respiration.	
08.17	Describe oxygen and carbon dioxide transport in the blood.	
08.18	Describe nervous and chemical mechanisms that regulate Respirations.	
08.19	Discuss respiration and acid-base balance.	
08.20	Describe the composition and function of blood and plasma.	
08.21	Identify and describe the anatomical structures and functions of the cardiovascular system.	
08.22	Discuss the hemodynamics of blood pressure.	
08.23	Discuss the role of nutrition, metabolism and body temperature on body function.	
08.24	Describe the causes, advantages and disadvantages of a fever	
08.25	Discuss the hypothalamus functions as the thermostat in the body	
09.0	**Medical Terminology:** Demonstrate the application of fundamental knowledge in the use of medical terminology and medical terms. –The student will be able to:	
09.01	Identify medical terminology word parts such as:	
	09.01.01	root words
	09.01.02	prefixes
	09.01.03	suffixes
	09.01.04	combining forms
09.02	Correctly utilize medical terminology describing each of the following:	
	09.02.01	body structures
	09.02.02	functions,
	09.02.03	conditions and disorders
	09.02.04	body regions
	09.02.05	cavities
	09.02.06	areas
	09.02.07	landmarks
09.03	Correctly use medical abbreviations and symbols.	
09.04	Read and understand basic medical documentation in medical records and medical reports.	
09.05	Communicate with healthcare professionals utilizing basic medical terminology.	
09.06	Explain the rationale for using accepted medical terminology correctly.	

10.0	**Pathophysiology:** Demonstrate the application of a fundamental knowledge of the causes, pathophysiology and management of shock and the components of resuscitation. –The student will be able to:
	10.01 Discuss signs of irreversible death.
	10.02 Review the anatomy and physiology of the respiratory and cardiovascular systems.
	10.03 Discuss and identify the pathophysiology and medical care for respiratory failure as well as respiratory and cardiac arrest.
	10.04 Explain the system components of CPR, the four links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	10.05 Show Provider (AHA guidelines) certification required prior to EMT program admission as per FS 401.27.
	10.06 Understand shock, including the pathophysiology, causes, and its signs and symptoms associated with the various types of shock.
	10.07 Discuss patient assessment and steps to the emergency care of the patient with signs and symptoms of shock.
	10.08 Based on age variations, discuss and distinguish the variations and causes between the management of patient experiencing shock.
11.0	**Life Span Development:** Demonstrate the application of fundamental knowledge of life span development to patient assessment and management. –The student will be able to:
	11.01 Describe the major physiologic and psychosocial characteristics of: 11.01.01 An infant's life 11.01.02 A toddler and preschooler's life 11.01.03 A school age child's life 11.01.04 An adolescent's life 11.01.05 An early adults life 11.01.06 A middle adult's life 11.01.07 A late adult's life
12.0	**Public Health:** Demonstrate the use of simple knowledge of the principles of illness and injury prevention in emergency care. –The student will be able to:
	12.01 Define public health and explain the goal of the public health field.
	12.02 Identify the EMS role within the public health field.
	12.03 Recognize the three categories of public health laws.
	12.04 Discuss basic concepts of epidemiology
	12.05 Discuss ways of EMS involvement in injury prevention.
	12.06 Identify areas of need for prevention programs in the community.
13.0	**Principles of Pharmacology:** Demonstrate a simple depth, simple breadth for medication safety and kinds of medications used during an emergency. –The student will be able to:

13.01	Explain the “six rights” of medication administration and describe how each one related to EMS.
13.02	Discuss the forms in which the medications may be found and provide examples of each and discuss how the form of a medication dictates its route of administration.
13.03	Describe the difference between a generic medication name and trade name, and provide an example of each.
13.04	Discuss the components and elements of a drug profile including: 13.04.01 Actions 13.04.02 Contraindications 13.04.03 Side effects 13.04.04 Dose 13.04.05 Route
13.05	Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14.0	**Medication Administration:** Demonstrate a fundamental depth and foundational breadth of medication administration within the scope of practice of the EMT. –The student will be able to:
14.01	Discuss the difference between administration versus assistance of patient medications.
14.02	Explain the rationale for the administration of medications.
	14.02.01 Assist in the administration of medications by the following routes: 14.02.02 oral 14.02.03 sublingual 14.02.04 inhalation 14.02.05 auto- injector
15.0	**Emergency Medications:** Demonstrate a fundamental depth and simple breadth of emergency medications within the scope of practice of the EMT. –The student will be able to:
15.01	State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : 15.01.01 Generic and trade names 15.01.02 Actions 15.01.03 Indication 15.01.04 Contraindications 15.01.05 Complications 15.01.06 Routes of administration 15.01.07 Side effects 15.01.08 Interactions 15.01.09 Doses of medications
15.02	Discuss the forms in which the medications may be found.
15.03	Demonstrate the steps in properly inspecting each type of medication.

16.0	**Airway Management:** Demonstrate a foundational depth, foundational breadth of airway management within the scope of practice of the EMT. –The student will be able to:
	16.01 Review the structures and functions of the respiratory system.
	16.02 State what care should be provided for a patient with or without adequate breathing.
	16.03 Describe and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
	16.04 Relate mechanism of injury to opening the airway.
	16.05 Explain the differences between airway anatomies in all age groups.
	16.06 Describe the following for a patient with an automatic transport ventilator (ATV): 16.06.01 Indications 16.06.02 Contraindications 16.06.03 Advantages 16.06.04 Disadvantages 16.06.05 Complications 16.06.06 Technique for ventilating
	16.07 Describe the following regarding supplemental oxygen delivery devices: 16.07.01 Indications 16.07.02 Contraindications 16.07.03 Advantages 16.07.04 Disadvantages 16.07.05 Complications 16.07.06 Liter Flow Range 16.07.07 Concentration of Delivered Oxygen
	16.08 Define, identify and describe the following: 16.08.01 tracheostomy 16.08.02 laryngectomy 16.08.03 stoma 16.08.04 tracheostomy tube
	16.09 Describe the special considerations in airway management and ventilation for the pediatric patient.
	16.10 Demonstrate the techniques of suctioning in all age groups.
	16.11 Demonstrate relief of FBAO in all age groups.
	16.12 Demonstrate how to insert an oral and nasal -airway adjunct in all age groups.
	16.13 Demonstrate how to insert both esophageal and supra-glottic airways in all age groups.
17.0	**Respirations:** Demonstrate a fundamental depth, foundational breadth of respiration. –The student will be able to:

	17.01	Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc)
	17.02	Describe the oxygenation process
	17.03	Explain both external and internal respiration process
	17.04	Discuss the various pathophysiologies of the respiratory system.
	17.05	Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
	17.06	State the following for oxygen delivery devices: 17.06.01 components 17.06.02 purpose 17.06.03 indications 17.06.04 contraindications 17.06.05 complications 17.06.06 procedures
	17.07	Describe and demonstrate the steps in performing the skill of assisting ventilations in the conscious and unconscious patient in respiratory distress using a bag-valve-mask (BVM), and continuous positive airway pressure (CPAP).
	17.08	Review the anatomy and physiology of the respiratory system including: 17.08.01 control of respirations 17.08.02 mechanics of respiration 17.08.03 pulmonary ventilation 17.08.04 oxygenation 17.08.05 mechanical ventilation
	17.09	Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
	17.10	Demonstrate the correct operation of oxygen tanks and regulators.
	17.11	Demonstrate the use of high, medium, low and variable concentration oxygen delivery devices for all age groups.
	17.12	Demonstrate the use of an oxygen humidifier and the requirements needed for its use.
	17.13	Discuss the differences between negative pressure and positive pressure ventilation.
18.0	**Artificial Ventilations:** Demonstrate a fundamental depth, foundational breadth of assessment and management utilizing artificial ventilation. –The student will be able to:	
	18.01	Demonstrate how to artificially ventilate a patient with a pocket mask.
	18.02	Demonstrate the steps in performing the skill of artificially ventilating a patient with a BVM for one and two rescuers using oral-nasal airway adjusts, head tilt chin lift and jaw thrust.
	18.03	Demonstrate the signs of adequate and inadequate artificial ventilation using the BVM.

	18.04 Describe and demonstrate the steps in artificially ventilating a patient with a manually triggered ventilation device.
	18.05 Demonstrate how to artificially ventilate the pediatric, adult and geriatric patient.
	18.06 Describe the steps involved in performing a comprehensive assessment of ventilations in all age groups.
	18.07 Demonstrate how to artificially ventilate a patient with a stoma.
	18.08 Demonstrate how to artificially ventilate a patient for all age groups.
	18.09 Demonstrate the use of various devices used in the assessment of supra-glottic and esophageal airway placement.
19.0	**Scene Size-Up:** Demonstrate a fundamental depth, foundational breadth of scene management and multiple patient situations**.** –The student will be able to:
	19.01 Recognize and describe hazards/potential hazards at the scene.
	19.02 Discuss common mechanisms of injury/nature of illness.
	19.03 Discuss the procedures for multiple-patient situations.
	19.04 Explain why it is important for the EMT to determine the need for additional or specialized resources.
	19.05 Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	19.06 List the minimum standard precautions that should be followed and PPE that should be worn at the emergency scene.
	19.07 Determine special considerations for dealing with a violent scene.
	19.08 Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.09 Explain how patient situations affect your evaluation of mechanism of injury or illness.
20.0	**Primary Assessment:** Demonstrate a fundamental depth, simple breadth of the primary assessment for all patient situations. –The student will be able to:
	20.01 Summarize the elements of a general impression of the patient.
	20.02 Explain the reason for performing a primary assessment.
	20.03 Discuss and demonstrate methods of assessing altered mental status using assess for level of consciousness (AVPU).
	20.04 Discuss and demonstrate methods of assessing the airway and providing airway care.
	20.05 Describe and demonstrate methods used for assessing if a patient is breathing
	20.06 Differentiate between a patient with adequate and inadequate breathing.

	20.07 Distinguish between methods of assessing breathing for all age groups.
	20.08 Describe and demonstrate the methods used to obtain a pulse in all age groups
	20.09 Compare the methods of providing airway care in all age groups.
	20.10 Discuss and demonstrate the need for assessing the patient for external bleeding.
	20.11 Describe and demonstrate normal and abnormal findings when assessing skin color, temperature, moisture and capillary refill for all age groups.
	20.12 Explain the reason for and demonstrate prioritizing a patient for care and transport.
	20.13 Describe when it is appropriate to expose the patient completely
	20.14 Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
21.0	**History-Taking:** Demonstrate a fundamental depth, foundational breadth of the components of history taking. –The student will be able to:
	21.01 Determine the chief complaint.
	21.02 Investigate the chief complaint.
	21.03 Describe components of the patient history
	21.04 Explain the importance of obtaining a SAMPLE and OPQRST history.
	21.05 Recognize and respond to the feelings patients experience during assessment.
	21.06 Discuss the value of obtaining a family and social history.
	21.07 Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
22.0	**Secondary Assessment:** Demonstrate a fundamental depth, foundational breadth of techniques used for a secondary assessment. –The student will be able to:
	22.01 Describe the unique needs and demonstrate assessing an individual with a specific chief complaint with no known prior history.
	22.02 Discuss the components and techniques of the physical exam and skills involved.
	22.03 Differentiate between the history and physical exam that are performed for responsive patients with no known prior history, responsive patients with a known prior history and unresponsive patients.
	22.04 State the circumstances for performing a rapid assessment.
	22.05 Discuss the reason for performing a focused history and physical exam.
	22.06 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.

	22.07 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	22.08 List normal blood pressure ranges for all age groups.
	22.09 Describe and demonstrate the head to toe examination.
	22.10 Demonstrate special examination techniques of the cardiovascular examination.
	22.11 Demonstrate the examination of the nervous system
	22.12 Demonstrate a physical exam performed for a responsive patient with and without a known prior history.
	22.13 Demonstrate a physical exam performed for an unresponsive patient.
	22.14 Recognize and respond to the feelings patients experience during assessment.
23.0	**Monitoring Devices:** Demonstrate a simple depth, simple breath of monitoring devices within the scope of practice of the EMT. –The student will be able to:
	23.01 Explain and demonstrate the use and interpretation of pulse oximetry and capnography device readings.
	23.02 Demonstrate and understand the findings of a blood pressure measured by palpation, auscultation and electronic device.
	23.03 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies. 23.03.01 Pulse Oximetry 23.03.02 Glucometry 23.03.03 Capnography
	23.04 Demonstrate the application of a cardiac monitor.
24.0	**Reassessment:** Demonstrate a fundamental depth, foundational breadth of how and when to perform a reassessment for all patient situations. –The student will be able to:
	24.01 Describe the components of the reassessment and demonstrate the skills involved.
	24.02 Discuss the reasons for repeating the initial assessment as part of the reassessment.
	24.03 Explain trending assessment components and its value to other health professionals who assume care of the patient.
	24.04 Demonstrate the steps for performing the reassessment of patients in all age groups.
	24.05 Explain the rationale of recording additional sets of vital signs.
25.0	**Medical Overview:** Demonstrate a simple depth, foundation breadth of pathophysiology, assessment and management of medical complaints. –The student will be able to:
	25.01 Identify the assessment factors for a patient with a medical complaint including:

	25.01.01	scene safety
	25.01.02	environmental factors
	25.01.03	chief complaint
	25.01.04	non-life threatening conditions
	25.01.05	distracting injuries
	25.01.06	tunnel vision
	25.01.07	patient cooperation
	25.01.08	rescuer attitude
25.02	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.	
26.0	**Neurology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of neurologic disorders/emergencies for all age groups. –The student will be able to:	
26.01	Review the anatomy and physiology of the nervous system.	
26.02	Describe the pathophysiology of the following neurologic disorders:	
	26.02.01	Altered Mental Status
	26.02.02	Stroke
	26.02.03	Transient Ischemic Attack
	26.02.04	Headache
	26.02.05	Seizures
	26.02.06	Syncope
26.03	Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes and transient ischemic attacks and their similarities and differences.	
26.04	Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.	
26.05	Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.	
26.06	Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish a harmless headaches from something more serious.	
26.07	Define “altered mental status” and identify the possible causes	
26.08	Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include:	
	26.08.01	strokes
	26.08.02	headaches
	26.08.03	seizures

	26.08.04	altered mental status
	26.09	Discuss the transport of the stroke patient to the appropriate treatment center.
27.0	**Abdominal and Gastrointestinal Disorder:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of abdominal and gastrointestinal disorders/emergencies for all age groups. –The student will be able to:	
	27.01	Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
	27.02	Describe the pathophysiology of the following abdominal and gastrointestinal disorders:
	27.02.01	Abdominal Pain
	27.02.02	Acute Abdomen
	27.02.03	Peritonitis
	27.02.04	Appendicitis
	27.02.05	Pancreatitis
	27.02.06	Cholecystitis
	27.02.07	Gastrointestinal bleeding
	27.02.08	Esophageal Varicies
	27.02.09	Gastroenteritis
	27.02.10	Ulcers
	27.02.11	Intestinal Obstruction
	27.02.12	Hernia
	27.02.13	Abdominal Aortic Aneurysm
	27.03	Define the term," acute abdomen."
	27.04	Identify the signs and symptoms, and common causes of an acute abdomen.
	27.05	Define upper and lower gastrointestinal bleeding.
	27.06	Describe and demonstrate the assessment and management of the patient in all age groups with various gastrointestinal emergencies to include upper and lower gastrointestinal bleeding.
	27.07	Recognize the signs and symptoms related to upper and lower gastrointestinal bleeding.
	27.08	Define acute gastroenteritis.
	27.09	Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
	27.10	Discuss the signs and symptoms of peritoneal inflammation relative to acute abdominal pain.
28.0	**Immunology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of immunology disorders/emergencies for all age groups. –The student will be able to:	
	28.01	Define and differentiate allergic reaction and anaphylaxis
	28.02	Describe the pathophysiology of the following immunology disorders:
	28.02.01	Allergic Reaction

	28.02.02 Anaphylaxis 28.02.03 Anaphylactic Shock
28.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
28.04	State the following for the epinephrine auto-injector: 28.04.01 generic and trade names 28.04.02 medication forms 28.04.03 dose 28.04.04 administration 28.04.05 action 28.04.06 contraindications
28.05	Demonstrate the use of epinephrine auto-injector
28.06	Review the anatomy and physiology of the organs and structures related to anaphylaxis
28.07	Describe the incidence, morbidity and mortality of anaphylaxis.
28.08	Identify the risk factors most predisposing to anaphylaxis.
28.09	Recognize the signs and symptoms related to anaphylaxis
28.10	Describe the prevention of anaphylaxis and appropriate patient education.
28.11	List common antigens most frequently associated with anaphylaxis.
28.12	Demonstrate how to remove a stinger from a bee sting and proper management following its removal.
29.0	**Infectious Disease:** Demonstrate a simple depth, simple breadth of the assessment and management of a patient who may have an infectious disease for all age groups. –The student will be able to:
29.01	List the causes of infectious diseases
29.02	Describe the pathophysiology of the following infectious diseases: 29.02.01 Hepatitis B 29.02.02 Hepatitis C 29.02.03 Tuberculosis 29.02.04 Human Immunodeficiency Virus (AIDS) 29.02.05 Severe Acute Respiratory Syndrome 29.02.06 West Nile Virus 29.02.07 Multidrug-Resistant Organisms
29.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.
29.04	Discuss mandatory notification to State or Federal agencies of various diseases.

	29.05 Identify patients with risk factors for infectious disease.
	29.06 Explain the principles and practices of infection control in prehospital care.
	29.07 Describe and discuss the rationale for the various types of PPE.
	29.08 Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
	29.09 Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.
	29.10 Describe the actions to take if the EMS provider is exposed to an infectious disease.
	29.11 Demonstrate the ability to comply with body substance isolation guidelines.
30.0	**Endocrine Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of endocrine disorders/emergencies for all age groups. –The student will be able to:
	30.01 Review the anatomy and physiology of the endocrine system and its main function in the body.
	30.02 Describe the pathophysiology of the following endocrine disorders: 30.02.01 Insulin Dependent Diabetes Mellitus 30.02.02 Non-Insulin Dependent Diabetes Mellitus 30.02.03 Hypoglycemia 30.02.04 Hyperglycemia 30.02.05 Diabetic Ketoacidosis(DKA) 30.02.06 Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS)
	30.03 Define and differentiate diabetes (type I and II), Hypoglycemia, Hyperglycemia, insulin shock and diabetic ketoacidosis.
	30.04 Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
	30.05 State the following for oral glucose: 30.05.01 Generic and trade names 30.05.02 Medication forms 30.05.03 Dose 30.05.04 Administration 30.05.05 Action 30.05.06 Contraindications
	30.06 Demonstrate the steps of using a glucometer device and administering oral glucose.
	30.07 Describe and demonstrate the assessment and the management of the patient in all age groups experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
	30.08 Discuss the general assessment findings associated with endocrinologic emergencies.
	30.09 Differentiate between the pathophysiology of normal glucose metabolism and diabetic glucose metabolism.

	30.10 Recognize the signs and symptoms of the patient with hypoglycemia.
	30.11 Recognize the signs and symptoms of the patient with hyperglycemia.
	30.12 Discuss the pathophysiology of diabetic ketoacidosis.
	30.13 Recognize the signs and symptoms of the patient with diabetic ketoacidosis.
31.0	**Psychiatric:** Demonstrate a fundamental depth, foundational breadth regarding the assessment and management of psychiatric emergencies for all age groups. –The student will be able to:
	31.01 Define behavior, psychiatric disorders and behavioral emergencies.
	31.02 Describe the pathophysiology of the following psychiatric disorders: 31.02.01 Anxiety 31.02.02 Phobias 31.02.03 Depression 31.02.04 Paranoia 31.02.05 Psychosis 31.02.06 Schizophrenia 31.02.07 Suicidal Ideations 31.02.08 Agitated Delirium 31.02.09 Violence toward Others
	31.03 Discuss the general factors that may cause an alteration in a patient's behavior.
	31.04 Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
	31.05 Given an scenario, apply knowledge of the special medical/legal considerations for managing behavioral emergencies to include Florida statues: 31.05.01 Baker Act (FS 394.451) 31.05.02 Marchman Act (FS 397.601 and FS 397.675) 31.05.03 Emergency examination and treatment of incapacitated (FS401.445)
	31.06 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a behavioral or psychiatric emergency.
	31.07 Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
	31.08 Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric disorders.
	31.09 Describe methods of restraint that may be necessary in managing the emotionally disturbed patient and the possible legal implications.
	31.10 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency.
32.0	**Cardiovascular**: Demonstrate a fundamental depth, foundational breadth of the assessment and management of cardiovascular emergencies for all age groups. –The student will be able to:

	32.01 Review the basic anatomy and physiology of the cardiovascular system.
	32.02 Describe the pathophysiology of the following cardiovascular disorders: 32.02.01 Acute Coronary Syndrome 32.02.02 Angina pectoris 32.02.03 Thromboembolism 32.02.04 Myocardial infarction 32.02.05 Hypertensive emergencies 32.02.06 Aortic aneurysm/dissection 32.02.07 Left and right sided Heart Failure 32.02.08 Cardiogenic Shock 32.02.09 Hypertensive Emergencies 32.02.10 Cardiac Arrest
	32.03 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a cardiac emergency.
	32.04 List the indications and contraindications for automated external defibrillation (AED).
	32.05 Explain the impact of age and weight on defibrillation.
	32.06 Discuss the position of comfort for patients with various cardiac emergencies.
	32.07 Explain the rationale for early defibrillation.
	32.08 Discuss the various types of automated external defibrillators.
	32.09 Differentiate between the fully automated and the semi-automated defibrillator.
	32.10 Understand the importance of maintenance and operators check list for AED's.
	32.11 Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
	32.12 Explain the role medical direction plays in the use of automated external defibrillation.
	32.13 Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
	32.14 Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
	32.15 Demonstrate the assessment and documentation of patient response to nitroglycerin.
33.0	**Toxicology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of toxicological (poisoning and overdose) emergencies for all age groups. –The student will be able to:
	33.01 Define and differentiate toxicology, poisoning and overdose.
	33.02 Describe the pathophysiology of the following toxicological emergencies: 33.02.01 Food Poisoning

	33.02.02	Carbon Monoxide Poisoning
	33.02.03	Cyanide Poisoning
	33.02.04	Exposure to Acid or Alkaline Substances
	33.02.05	Exposure to Hydrocarbons
	33.02.06	Methanol Ingestion
	33.02.07	Isopropanol Ingestion
	33.02.08	Ethylene Glycol Ingestion
	33.02.09	Exposure to Poisonous Plants
	33.02.10	Drug Withdrawal
	33.02.11	Alcoholic Syndrome
	33.02.12	Withdrawal syndrome (including delirium tremens)
	33.02.13	Illicit Drug Use
	33.02.14	Medication Overdose
33.03	List various ways that poisons enter the body.	
33.04	List signs/symptoms associated with poisoning.	
33.05	Discuss and demonstrate the assessment and management for the patient in all age groups with poisoning or overdose.	
33.06	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.	
33.07	Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.	
34.0	**Respiratory:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of respiratory disorders/emergencies for all age groups. –The student will be able to:	
34.01	Review the basic anatomy and physiology of the respiratory system.	
34.02	Describe the pathophysiology of the following respiratory disorders:	
	34.02.01	Chronic Obstructive Pulmonary Disease: Emphysema, Chronic Bronchitis, and Asthma
	34.02.02	Pulmonary Edema
	34.02.03	Spontaneous Pneumothorax
	34.02.04	Hyperventilation Syndrome
	34.02.05	Epiglottitis
	34.02.06	Pertussis
	34.02.07	Cystic Fibrosis
	34.02.08	Pulmonary Embolism
	34.02.09	Pneumonia
	34.02.10	Viral Respiratory Infections
	34.02.11	Poisonous Exposures
34.03	List signs of adequate air exchange.	
34.04	State the signs and symptoms of a patient with respiratory distress.	

	34.05 Describe and demonstrate the assessment and management of the patient in all age groups with a respiratory emergency.
	34.06 State the following for the metered-dose inhaler: 34.06.01 generic name 34.06.02 medication forms 34.06.03 dose 34.06.04 administration 34.06.05 action 34.06.06 indications 34.06.07 contraindications
	34.07 Describe and demonstrate the steps in facilitating the use of an inhaler.
	34.08 Differentiate between upper airway obstruction and lower airway disease in the patient for all age groups.
	34.09 Discuss the measures needed to ensure personal safety while attending to the patient with a respiratory emergency or infection.
	34.10 Demonstrate proper use of airway and ventilation devices.
	34.11 Explain the rationale and demonstrate the application of a CPAP/ BiPAP unit.
35.0	**Hematology:** Demonstrate a simple depth, simple breadth of the assessment, and management of hematology disorders for all age groups. –The student will be able to:
	35.01 Review the anatomy and physiology of blood.
	35.02 Describe the pathophysiology of the following hematology disorders: 35.02.01 Anemia 35.02.02 Sickle Cell Anemia / Sickle Cell Crisis 35.02.03 Hemophilia
	35.03 State the signs and symptoms of a patient with a Sickle Cell crisis or a clotting disorder.
	35.04 Describe and demonstrate the assessment and the management of the patient with Sickle cell crisis or a clotting disorder.
	35.05 Describe the anatomy and physiology of the hematologic system to the pathophysiology and assessment of patients with hematologic disorders such as Sickle cell.
36.0	**Genitourinary /Renal:** Demonstrate a simple depth, simple breath of the assessment and management of genitourinary/ renal emergency for all age groups. –The student will be able to:
	36.01.01 Review the basic anatomy and physiology of the genitourinary and renal systems
	36.02 Describe the pathophysiology of the following genitourinary/ renal disorders: 36.02.01 Urinary Tract Infection 36.02.02 Kidney Stones 36.02.03 Kidney Failure
	36.03 Understand the basic principles of kidney dialysis.

	36.04 Discuss the signs and symptoms of a patient with a dialysis emergency.
	36.05 Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
37.0	**Gynecology:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of gynecologic emergencies for all age groups. –The student will be able to:
	37.01 Review the basic anatomy and physiology of the female reproductive system.
	37.02 Describe the pathophysiology of the following gynecologic disorders and emergencies: 37.02.01 Sexual Assault 37.02.02 Nontraumatic Vaginal Bleeding 37.02.03 Menstrual Pain 37.02.04 Ovarian Cyst 37.02.05 Endometritis 37.02.06 Endometriosis 37.02.07 Pelvic Inflammatory Disease 37.02.08 Sexually Transmitted Diseases
	37.02.09 Describe and demonstrate the assessment and management of the patient in all age groups experiencing a gynecologic emergency to include: 37.02.10 excessive bleeding 37.02.11 abdominal pain 37.02.12 sexual assault.
	37.03 Discuss the special consideration and precautions an EMT must observe when arriving at the scene of a suspected case of sexual assault or rape.
	37.04 Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
	37.05 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
	37.06 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
38.0	**Non-Traumatic Musculoskeletal Disorders:** Demonstrate a fundamental depth, foundational breadth of the assessment and management of non-traumatic fractures for all age groups. –The student will be able to:
	38.01 Review the basic anatomy and physiology of the musculoskeletal system.
	38.02 Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.
39.0	**Diseases of the Eyes, Ears, Nose, and Throat:** Demonstrate a simple depth, simple breadth in recognition and management of nose bleed for all age groups. –The student will be able to:
	39.01 Discuss the recognition and management of an epistaxis.
	39.02 Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat.

40.0	**Shock and Resuscitation:** Demonstrate the application of fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure. –The student will be able to:
	40.01 Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
	40.02 Discuss and identify causes and pathophysiology of respiratory failure and arrest.
	40.03 Discuss and identify causes and pathophysiology of cardiac failure or arrest.
	40.04 Discuss the various types and degrees of shock.
	40.05 Discuss and identify post resuscitation and management.
	40.06 Explain the system components of CPR, the links in the AHA chain of survival and how each one relates to maximizing the survival of the patient.
	40.07 Show Provider (AHA guidelines) certification required prior to rescuer program completion.
	40.08 Discuss and distinguish the variations and causes between the management of the infant, child, adult and geriatric patient experiencing shock.
	40.09 Define and differentiate compensated and decompensated hemorrhagic shock.
	40.10 Defend the importance of teamwork, experience, and practice in preparation to manage the critical patient
	40.11 Demonstrate how to perform one and two rescuer CPR, adult, child, infant
	40.12 Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child and infant patient
	40.13 Demonstrate the steps of rescuer level appropriate post resuscitative care
	40.14 Management and resuscitation of the critical patient
	40.15 Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition
	40.16 Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
41.0	**Trauma Overview:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of the trauma patient for all age groups. –The student will be able to:
	41.01 Discuss and define pathophysiology of the trauma patient
	41.02 List and describe the components of a comprehensive trauma systems and levels of trauma centers.
	41.03 Describe the criteria for different transportation modes to a trauma center.
	41.04 Explain the relationship between mechanism of injury and potential energy, kinetic energy and work in relation to trauma. 41.04.01 Define energy, force, laws of motion 41.04.02 Explain the physics of trauma

	41.05 Define the term blunt and penetrating trauma and provide examples of the mechanism of injury (MOI) that would cause each to occur and include: 41.05.01 Effects of high, medium and low velocity penetrating trauma 41.05.02 Primary, secondary, tertiary and miscellaneous blast injuries 41.05.03 Factors to consider of a patient injured in a fall. 41.05.04 Consider all age groups
	41.06 Describe the kinematics of penetrating injuries.
	41.07 Discuss the role of documentation in trauma.
	41.08 Demonstrate the use of the Florida Trauma Alert Criteria, classify various types of trauma patients.
	41.09 Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
	41.10 Discuss and describe State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.)
	41.11 Discuss the National Trauma Triage Protocol of injured Patients
42.0	**Bleeding:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of bleeding for all age groups. –The student will be able to:
	42.01 Review the anatomy and physiology of the circulatory system
	42.02 Review the different types of bleeding and classes of hemorrhage.
	42.03 List signs and symptoms of shock (hypo-perfusion).
	42.04 Describe the body's physiologic response to bleeding.
	42.05 Review the pathophysiology of hemorrhagic shock.
	42.06 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).
	42.07 Describe and demonstrate the assessment and management of a patient in all age groups with hemorrhagic shock.
	42.08 Demonstrate how to apply a commercial tourniquet.
	42.09 Formulate a field impression based upon the assessment findings for a patient with hemorrhagic shock.
43.0	**Chest Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of chest trauma for all age groups. –The student will be able to:
	43.01 Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
	43.02 Differentiate between a pneumothorax (open, simple and tension) and hemothorax.

	43.03 Discuss the pathophysiology and MOI of myocardial injuries, including the following: 43.03.01 pericardial tamponade 43.03.02 myocardial contusion, 43.03.03 myocardial rupture 43.03.04 commotio cordis
	43.04 Identify the need for rapid intervention and transport of the patient with thoracic injuries.
	43.05 Discuss the pathophysiology and MOI of specific chest wall injuries, including the following: 43.05.01 rib fracture 43.05.02 flail segment 43.05.03 sternal fracture
	43.06 Describe and demonstrate the assessment and management of injuries to the chest wall, lung and myocardial tissue.
	43.07 Identify the need for rapid intervention and transport of the patient with chest wall, lung and myocardial tissue injuries.
	43.08 Formulate a field impression based upon the assessment findings for a patient with chest trauma.
44.0	**Abdominal and Genitourinary Trauma:** Demonstrate a fundamental depth, simple breadth of pathophysiology, assessment and management of abdominal and genitourinary trauma for all age groups. –The student will be able to:
	44.01 Review the anatomy and physiology and of the abdominal cavity and genitourinary (both male and female) system.
	44.02 Describe the abdominal quadrants and the organs found within each quadrant.
	44.03 Describe the differences between hollow and solid organs.
	44.04 Discuss the pathophysiology and MOI for abdominal trauma including hallow and solid injuries.
	44.05 Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury including: 44.05.01 Penetrating 44.05.02 Blunt 44.05.03 Open 44.05.04 Closed
	44.06 Formulate a field impression based upon the assessment findings for a patient with abdominal trauma.
45.0	**Orthopedic Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of orthopedic trauma for all age groups. –The student will be able to:
	45.01 Review the anatomy and physiology of the musculo-skeletal system.
	45.02 and Discuss pathophysiology and MOI for orthopedic injury including: 45.02.01 Fractures 45.02.02 Sprains 45.02.03 Strains 45.02.04 Pelvic Injury

	45.02.05 Amputation
45.03	Describe the different types of orthopedic injuries including: 45.03.01 Fractures 45.03.02 Sprains 45.03.03 Strains 45.03.04 Pelvic Injury 45.03.05 Amputation
45.04	List the primary signs and symptoms of extremity trauma.
45.05	Explain the rationale for stabilization of an open and a closed painful, swollen, deformed extremity.
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic injury including: 45.06.01 Fractures 45.06.02 Sprains 45.06.03 Strains 45.06.04 Pelvic Injury 45.06.05 Amputation
45.07	Explain the benefits and general guidelines for the following management techniques: 45.07.01 Heat Therapy 45.07.02 Cold Therapy 45.07.03 Splinting
45.08	List the six “Ps” of orthopedic injury assessment.
45.09	Discuss the need for assessment of pulses, motor, and sensation before and after splinting.
45.10	Describe age-associated changes in the bones.
45.11	Discuss the usefulness of the pneumatic anti-shock garment (PASG) in the management of fractures.
45.12	Discuss the out-of-hospital management of dislocation/fractures, including splinting and realignment and sprains and strains.
45.13	Discuss the pathophysiology of replantation.
45.14	Explain the rationale for splinting at the scene versus load and go.
45.15	Demonstrate the proper use of following techniques for a patient with a suspected fracture:, , 45.15.01 Hard 45.15.02 Improvised 45.15.03 Soft 45.15.04 Traction splints
45.16	Formulate a field impression based upon the assessment findings for a patient with orthopedic trauma.

46.0	**Soft Tissue Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of soft tissue trauma for all age groups. –The student will be able to:
46.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.
46.02	Describe the pathophysiology and MOI of wounds, burns, crush injuries and high pressure injection injuries.
46.03	Describe and demonstrate the assessment and management of the following types of closed soft tissue injuries: 46.03.01 wounds 46.03.02 burns 46.03.03 high pressure injection 46.03.04 crush syndrome injuries 46.03.05 compartment syndrome injuries 46.03.06 contusion 46.03.07 hematoma
46.04	Describe and demonstrate the assessment and management of the following types of open soft tissue injuries: 46.04.01 abrasions 46.04.02 lacerations 46.04.03 major arterial lacerations 46.04.04 avulsions, 46.04.05 bites 46.04.06 impaled objects 46.04.07 amputations 46.04.08 incisions 46.04.09 crush injuries 46.04.10 blast injuries 46.04.11 Penetrations/punctures.
46.05	Identify types of burn injuries, including: 46.05.01 thermal burn 46.05.02 inhalation burn 46.05.03 chemical burn 46.05.04 electrical burn 46.05.05 radiation exposure
46.06	Describe the depth classifications of burn injuries, including: 46.06.01 superficial burn 46.06.02 partial-thickness burn 46.06.03 full-thickness burn 46.06.04 Other depth classifications
46.07	Describe methods for determining body surface area percentage of a burn injury including the “rules of nines," the "rules of palms," and other methods.
46.08	Explain how the seriousness of a burn is related to its depth and extent (percent of body surface area (BSA) involved or rule of nines) for patients in all age groups.

	46.09 Differentiate and demonstrate the various management techniques for hemorrhage control of open soft tissue injuries, including but not limited to: 46.09.01 direct pressure 46.09.02 pressure dressing 46.09.03 tourniquet application 46.09.04 Hemostatic agents
	46.10 Differentiate between the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
	46.11 Discuss the possible complications of an improperly applied dressing, bandage, tourniquet and hemostatic agents.
	46.12 Describe and demonstrate the assessment and management of specific burn injuries including: 46.12.01 Thermal 46.12.02 Inhalation 46.12.03 Chemical 46.12.04 Electrical 46.12.05 Radiation
	46.13 Formulate a field impression based upon the assessment findings for a patient with soft tissue trauma.
47.0	**Head, Facial, Neck, and Spine Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of head, facial, neck and spine trauma for all age groups. –The student will be able to:
	47.01 Review the anatomy and physiology and of the head, face, and neck (non-spinal).
	47.02 Describe the pathophysiology and MOI for head, face, and neck (non-spinal) hemorrhage.
	47.03 Describe and demonstrate the assessment and management of a patient with the following injuries to the head, face and neck (non-spinal): 47.03.01 Penetrating Neck Trauma 47.03.02 Laryngotracheal injury 47.03.03 Skull Fracture 47.03.04 Facial Fracture 47.03.05 Eye Injury (foreign body) 47.03.06 Dental Trauma
	47.04 Recognize and manage life threats due to head, neck and spine trauma.
	47.05 Discuss and demonstrate the rationale and use of the Glasgow Coma Score.
	47.06 Formulate a field impression based upon the assessment findings for a patient with head, facial, and/ or neck (non-spinal) trauma.
48.0	**Nervous System Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment, and management of nervous system trauma for all age groups. –The student will be able to:
	48.01 Review the anatomy and physiology and of the nervous system.
	48.02 Discuss the pathophysiology and MOI for brain and spinal injury including:

	48.02.01	Increased intracranial pressure (ICP)
	48.02.02	Concussion
	48.02.03	Contusion
48.03	Describe and demonstrate the assessment and management of a patient with a brain and spinal injury including:	
	48.03.01	Brain Trauma
	48.03.02	Spinal Cord Trauma
	48.03.03	Cervical Spine Trauma
48.04	Explain the rationale for motion restriction of the entire spine when a cervical spine injury is suspected.	
48.05	Explain the rationale for utilizing spinal motion restriction methods apart from the straps on the cots.	
48.06	Explain the rationale for utilizing a short spine motion restriction device when moving a patient from the sitting to the supine position.	
48.07	Given a scenario, defend whether or not to remove a helmet prior to transport of a patient.	
48.08	Demonstrate specific management techniques for a patient with a suspected spinal cord injury.	
48.09	Demonstrate various methods for stabilization and removal of a helmet.	
48.10	Demonstrate documentation of assessment before, during and after spinal motion restriction.	
48.11	Formulate a field impression based upon the assessment findings for a patient with brain and/or spinal trauma.	
49.0	**Special Considerations in Trauma:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of trauma patients with special considerations for all age groups. –The student will be able to:	
49.01	Review the anatomy and physiology for the following trauma patients:	
	49.01.01	pregnant
	49.01.02	pediatric
	49.01.03	geriatric
	49.01.04	cognitively impaired
49.02	Discuss the pathophysiology and MOI of trauma in the following patients:	
	49.02.01	pregnant
	49.02.02	pediatric
	49.02.03	geriatric
	49.02.04	cognitively impaired
49.03	Discuss and demonstrate unique assessment and management considerations for the following trauma patients:	
	49.03.01	pregnant
	49.03.02	pediatric
	49.03.03	geriatric
	49.03.04	cognitively impaired
49.04	Formulate a field impression based upon the assessment findings for a patient requiring special considerations.	

50.0	**Environmental Emergencies:** Demonstrate a fundamental depth, foundational breadth of pathophysiology, assessment and management of environmental emergencies for all age groups. –The student will be able to:
	50.01 Define drowning and discuss its incidence, rick factors and prevention.
	50.02 Discuss the pathophysiology and MOI of the following: 50.02.01 Drowning and water related incidents 50.02.02 temperature-related illness 50.02.03 bites and envenomation 50.02.04 dysbarism such as high-altitude edema 50.02.05 diving injuries 50.02.06 lightning (electrical) injury 50.02.07 high altitude illness
	50.03 Describes and demonstrate the assessment and management for a patient with the following: 50.03.01 Drowning and water related incidents 50.03.02 temperature-related illness 50.03.03 bites and envenomation 50.03.04 dysbarism such as high-altitude edema 50.03.05 diving injuries 50.03.06 lightning (electrical) injury 50.03.07 high altitude illness
	50.04 Discuss the physics of the gas laws including: Boyle's, Dalton, Henry and Charles.
	50.05 Discuss scene management and provider safety considerations for a submersion, diving, or lightning incident.
	50.06 Explain the five ways a body can lose heat
	50.07 Identify the species of insects, spiders and snakes in the US that may cause life threatening injuries.
	50.08 Formulate a field impression based upon the assessment findings for a patient with an environmental emergency.
51.0	**Multi-Systems Trauma:** Demonstrate a fundamental depth, foundational breadth of the pathophysiology, assessment, and management of multi-system trauma and blast injuries. –The student will be able to:
	51.01 Discuss the pathophysiology and MOI of multi-system trauma and blast injuries.
	51.02 Discuss the golden principle of out-of-hospital trauma care
	51.03 Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.
	51.04 Formulate a field impression based upon the assessment findings for a patient with multi systems trauma and/ or blast injuries.
52.0	**Obstetrics:** Demonstrate a fundamental depth, foundational breadth of management of the obstetric patient within the scope of practice of the EMT. –The student will be able to:
	52.01 Identify and describe the anatomical structures and functions of the female reproductive system and how these structures and functions change during pregnancy

	52.02	Define the stages of labor and discuss how to assess them
	52.03	Differentiate between normal delivery, abnormal delivery and complications associated with delivery.
	52.04	Differentiate the management of a patient with predelivery emergencies from a normal delivery.
	52.05	State the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.06	Describe how to care for the newborn post-delivery.
	52.07	Describe the management of the mother post-delivery.
	52.08	State the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.09	Describe the procedures for handling complications of pregnancy
	52.10	Describe special considerations when meconium is present in amniotic fluid or during delivery.
	52.11	Describe special patient care considerations of a premature baby.
	52.12	Demonstrate how to listen to fetal heart tones.
	52.13	Demonstrate the patient care measures for all stages of labor in a normal (cephalic) delivery for the mother and the newborn
	52.14	Demonstrate the patient care measures for all stages of labor in abnormal (non-cephalic) deliveries for the mother and the newborn
	52.15	Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia and eclampsia
53.0	**Neonatal Care:** Demonstrate a fundamental depth, foundational breadth of management of the newborn and neonatal patient within the scope of practice of the EMT. –The student will be able to:	
	53.01	Discuss and demonstrate assessment and management considerations of a neonate.
	53.02	Define the term neonate.
	53.03	Identify the factors that lead to premature birth and low birth weight newborns.
	53.04	Calculate the APGAR score given various newborn situations.
	53.05	Discuss the common signs when ventilator assistance is appropriate for a neonate.
	53.06	Identify and discuss the use of oxygen/airway adjuncts in the neonate
	53.07	Discuss the steps in resuscitation of a neonate
	53.08	Discuss the signs of hypovolemia in a newborn.

	53.09 Discuss the effects maternal narcotic usage has on the newborn
	53.10 Discuss the management/treatment plan for vomiting in the neonate.
	53.11 Discuss the assessment findings associated with common birth injuries in the neonate.
	53.12 Demonstrate assessment of APGAR scoring during a scenario
	53.13 Demonstrate appropriate assessment technique for examining a neonate.
	53.14 Demonstrate appropriate assisted ventilations for a neonate.
	53.15 Demonstrate appropriate chest compression and ventilation technique for a neonate.
	53.16 Demonstrate the initial steps in resuscitation of a neonate.
	53.17 Demonstrate blow-by oxygen delivery for a neonate.
54.0	**Pediatrics:** Demonstrate a fundamental depth, fundamental breath of management of the pediatric patient within the scope of practice of the EMT. –The student will be able to:
	54.01 Review the anatomy, physiology and pathophysiology and differences of patients in the pediatric age ranges.
	54.02 Discuss the differences in approaching and assessing patients in the pediatric age ranges.
	54.03 Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
	54.04 Describe the selection of appropriate airway adjuncts and ventilation devices for infants and children.
	54.05 Discuss complications of improper utilization of airway adjuncts and ventilation devices with infants and children.
	54.06 Describe the common causes, assessment and management of respiratory distress, failure, or arrest in infants and children.
	54.07 Discuss the common causes, assessment and management of hypoperfusion in infants and children.
	54.08 Discuss the common causes, assessment and management of cardiopulmonary arrest in infants and children.
	54.09 Describe the common causes, assessment and management of altered level of consciousness in infants and children.
	54.10 Describe the common causes, assessment and management of trauma in infants and children.
	54.11 Discuss the pathophysiology of hypo-perfusion in infants and children.
	54.12 Describe the common causes, assessment and management of hypoperfusion in infants and children.
	54.13 Describe the common causes, assessment and management of neurological emergencies in infants and children.

	54.14	Demonstrate proper technique for administering blow-by oxygen to infants and children.
	54.15	Demonstrate proper technique for suctioning of infants and children.
	54.16	Demonstrate appropriate use of airway adjuncts and ventilation devices with infants and children.
	54.17	Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.
	54.18	Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.
55.0	**Geriatrics:** Demonstrate a fundamental depth, foundational breadth of management of the geriatric patient within the scope of practice of the EMT. –The student will be able to:	
	55.01	Define and discuss the term “geriatrics.”
	55.02	Review the anatomy, physiology and pathophysiology of the Geriatric patient.
	55.03	Discuss common emotional and psychological reactions to aging to include causes and manifestations.
	55.04	Discuss the problems with mobility in the elderly and develop strategies to prevent falls.
	55.05	Discuss factors that may complicate the assessment of the elderly patient including communication issues and methods to overcome them.
	55.06	Describe principles that should be employed when assessing and communicating with the elderly.
	55.07	Describe the common causes, assessment and management of the elderly patient with the following complaints:
	55.07.01	Pulmonary, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism.
	55.07.02	Cardiovascular, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension.
	55.07.03	Nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer’s disease and Parkinson’s disease.
	55.07.04	Endocrine system, including diabetes and thyroid diseases.
	55.07.05	Gastrointestinal problems.
	55.07.06	Toxicological problems including alcohol/drug abuse, and polypharmacy errors.
	55.07.07	Environmental considerations.
	55.07.08	Traumatic injuries, including orthopedic injuries, burns and head injuries.
56.0	**Patients with Special Challenges:** Demonstrate a simple depth, simple breadth of management of the patient with special challenges. – The student will be able to:	
	56.01	Define child abuse / neglect

56.02	Define children with special health care needs.
56.03	Discuss the pathophysiology of abuse and neglect in infants and children.
56.04	Discuss the assessment and management/treatment plan for abuse and neglect in infants and children, including documentation and reporting.
56.05	Discuss the pathophysiology of children with special health care needs including technology
56.06	Discuss the assessment management/treatment plan for children with special health care needs including technology assisted children.
56.07	Discuss the incidence and categories of abuse and assault.
56.08	Describe the characteristics associated with the profile of the typical abuser of a spouse, elder and child.
56.09	Identify the profile of the "at-risk" spouse, elder and child.
56.10	Discuss special considerations for the assessment and management of the abused patient.
56.11	Discuss the legal aspects of documentation and mandatory reporting associated with abused and assaulted patient.
56.12	Discuss considerations for approach, assessment and treatment of patients with the following impairments/disabilities: (LIST) Hearing, Vision, and Speech.
56.13	Describe paraplegia/quadriplegia.
56.14	Recognize the patient with a developmental disability.
56.15	Recognize the patient with Down's syndrome.
56.16	Describe the following diseases/illnesses: 56.16.01 Cerebral palsy 56.16.02 Cystic fibrosis 56.16.03 Spina bifida 56.16.04 Patients with a previous head injury
56.17	Identify a patient that is terminally ill.
56.18	Differentiate between the role of EMS provider and the role of the home care provider.
56.19	Discuss the aspects of home care that impact quality of the care for a given patient.
56.20	List complications commonly seen in the home care patients, which result in their hospitalization.
56.21	Define hospice care and comfort care.
56.22	List the stages of the grief process and relate them to an individual in hospice care.

	56.23 Describe airway maintenance devices typically found in the home care environment.
	56.24 Describe indwelling catheters, implanted central IV ports and central line monitoring.
	56.25 Identify failure of GI/GU devices found in the home care setting.
	56.26 Identify failure of ventilating devices found in the home care setting.
	56.27 Identify failure of vascular access devices found in the home care setting.
	56.28 Demonstrate the ability to assess a spouse, elder or child abused patient.
	56.29 Demonstrate the ability to assess a sexually assaulted patient.
	56.30 Demonstrate the assessment of a patient with a sensory deficit or developmental disability.
	56.31 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide.
57.0	**Principles of Safely Operating a Ground Ambulance:** Demonstrate a simple depth, foundational breadth of risks and responsibilities of transport. –The student will be able to:
	57.01 Discuss the importance of performing regular vehicle and equipment inspection.
	57.02 Demonstrate how to perform a daily inspection of an ambulance.
	57.03 Describe the general provisions of Florida laws relating to the operation of the ambulance and privileges. ,
	57.04 Identify current local and state standards which influence ambulance design.
	57.05 Demonstrate how to place a patient in, and remove a patient from an ambulance.
	57.06 Discuss the guidelines for operating an ambulance safety during emergency and non-emergency situation/incident.
	57.07 Discuss considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
	57.08 Demonstrate how to clean and disinfect the ambulance and equipment.
58.0	**Incident Management:** Demonstrate a fundamental depth, fundamental breadth of establishing and working within the incident management system. –The student will be able to:
	58.01 Explain the need for the incident management system (IMS)/incident command system (ICS) in managing emergency medical services incidents.
	58.02 Define the term disaster management.
	58.03 Discuss the importance of NIMS (National Incidence Management System).
	58.04 Describe the functional components of the incident management system in terms of the following: 58.04.01 Command

	58.04.02 Finance 58.04.03 Logistics 58.04.04 Operations 58.04.05 Planning	
	58.05 Differentiate between singular and unified command and when each is most applicable.	
	58.06 Describe the role of command	
	58.07 Describe the need for transfer of command and procedures for transferring it.	
	58.08 List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents: 58.08.01 safety 58.08.02 logistics 58.08.03 rehabilitation 58.08.04 staging, 58.08.05 treatment 58.08.06 triage 58.08.07 transportation 58.08.08 extrication/rescue 58.08.09 morgue 58.08.10 communications	
	58.09 Describe techniques used to allocate patients to hospitals and track them.	
	58.10 List the physical and psychological signs of critical incident stress.	
	58.11 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.	
59.0	**Multiple Casualty Incidents:** Demonstrate a simple depth, foundational breadth of responding to an emergency during a multiple casualty incident. –The student will be able to:	
	59.01 Describe essential elements of scene size-up when arriving at a potential MCI.	
	59.02 Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.	
	59.03 Describe the role of the physician at multiple casualty incidents.	
	59.04 Define triage and describe the principles of triage.	
	59.05 Describe the START (simple triage and rapid treatment) method of initial triage.	
	59.06 Describe techniques used to allocate patients to hospitals and track them.	
	59.07 List and describe the essential equipment to provide logistical support to MCI operations, including but not limited to:, 59.07.01 Airway 59.07.02 respiratory and hemorrhage control	

	59.07.03 Burn management 59.07.04 Patient packaging/immobilization	
	59.08 List the physical and psychological signs of critical incident stress.	
	59.09 Describe the role of critical incident stress management sessions in MCIs.	
	59.10 Explain the organizational benefits for having standard operating procedures (SOPs) for using the incident management system or incident command system.	
	59.11 Demonstrate the use of local/regional triage tagging system used for primary and secondary triage.	
	59.12 Given a classroom simulation of a MCI with 5-10 patients, fulfill the role of triage group leader.	
60.0	**Air Medical:** Demonstrate a simple depth, simple breadth of safe air medical operations and criteria for utilizing air medical response. – The student will be able to:	
	60.01 Discuss safe air medical operations.	
	60.02 Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.	
	60.03 Describe the capabilities, protocols, and methods for accessing air medical transport.	
	60.04 Describe the advantages and disadvantages of air medical transport.	
	60.05 Identify the conditions/situations in which air medical transport should be considered.	
	60.06 Assess personal practices relative to air medical operations which may affect the safety of the crew, the patient and bystanders.	
	60.07 Perform setting up an air medical helicopter landing zone.	
61.0	**Vehicle Extrication:** Demonstrate a simple depth, simple breadth for safe vehicle extrication and use of simple hand tools. –The student will be able to:	
	61.01 Describe the role of the EMT in patient rescue and vehicle extrication	
	61.02 Describe personal and patient safety during vehicle extrication.	
	61.03 Explain the difference between simple access and complex access in vehicle extrication	
	61.04 Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.	
	61.05 Discuss the use of simple hand tools used for vehicle extrication	
	61.06 Describe the effects of traffic flow on the highway rescue incident including limited access superhighways and regular access highways.	
	61.07 List and describe the hazards associated with the following auto/ truck components: 61.07.01 energy absorbing bumpers 61.07.02 air bag/supplemental restraint systems	

	61.07.03	catalytic converters and conventional fuel systems
	61.07.04	stored energy
	61.07.05	alternate fuel systems
61.08	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.	
61.09	Describe the electrical hazards commonly found at highway incidents (above and below ground).	
61.10	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.	
61.11	Explain typical door anatomy and methods to access through stuck doors.	
61.12	Explain SRS or "air bag" systems and methods to neutralize them.	
61.13	Demonstrate the use of wood cribbing to stabilize a vehicle.	
61.14	Demonstrate how to gain access to a patient by using a spring- loaded center punch.	
62.0	**Hazardous Materials Awareness:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. –The student will be able to:	
62.01	Identify resources for substance identification, decontamination and treatment information, including but not limited to the following:	
	62.01.01	poison control center
	62.01.02	medical control
	62.01.03	material safety data sheets (MSDS),
	62.01.04	reference textbooks
	62.01.05	computer databases
	62.01.06	Computer-Aided Management of Emergency Operations (CAMEO)
	62.01.07	CHEMTREC
	62.01.08	technical specialists
	62.01.09	Agency for toxic substances and disease registry
62.02	Explain primary and secondary contamination risk.	
62.03	List and describe the following routes of exposure:	
	62.03.01	topical
	62.03.02	respiratory
	62.03.03	gastrointestinal
	62.03.04	parenteral
62.04	Explain how the substance and route of contamination alters triage and decontamination methods.	
62.05	List and explain the common signs, symptoms and treatment for the following substances:	
	62.05.01	corrosives (acids/alkalis)

	62.05.02	pesticides (carbamates / organophosphates),
	62.05.03	chemical asphyxiants (cyanide/carbon monoxide)
	62.05.04	hydrocarbon solvents (xylene, methylene chloride)
62.06	Identify local facilities and resources capable of treating patients	
62.07	Determine the appropriate level of PPE by considering the following:	
	62.07.01	Types
	62.07.02	Application
	62.07.03	Use and Limitations
	62.07.04	Use of chemical compatibility chart
62.08	Explain specific decontamination procedures.	
62.09	Demonstrate the donning and doffing of appropriate PPE.	
62.10	Set up and demonstrate an emergency two-step decontamination process.	
62.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials	
62.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material	
63.0	**Mass Casualty Incidents Due to Terrorism and Disaster:** Demonstrate a simple depth, simple breadth of risks and responsibilities of operating on the scene of a natural or man-made disaster. –The student will be able to:	
63.01	Describe the role of the EMT on the scene of a natural or man-made disaster	
63.02	Define the different types of terrorism and provide examples of incidents of each.	
63.03	Describe personal and patient safety during a natural or man-made disaster.	
63.04	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.	
63.05	Discuss the National Terrorism Advisory System	
63.06	Discuss factors to consider when responding to a terrorist situation	
63.07	Discuss important actions to take at the scene of a terrorist event such as:	
	63.07.01	scene safety
	63.07.02	personal protection
	63.07.03	notification procedures
	63.07.04	available resources
	63.07.05	working with in the command system
63.08	List the main categories of weapons of mass destruction	
63.09	Discuss the different types of chemical agents and their signs and symptoms	

63.10	Discuss the treatment and management of patients exposed to various types of chemical agents and radiation.
63.11	Define the different types of radiations and their effect on the human body.
63.12	Demonstrate the use of a nerve agent antidote kit.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Florida Statute 401.2701 requires that the instructor-student ratio should not exceed 1:6. Hospital activity shall include a minimum of 20 hours of supervised clinical supervision, including 10 hrs in a hospital emergency department. Clinical activity shall include appropriate patient assessment skills, intervention and documentation relevant to each clinical rotation.

Field internship shall include a competency based program to assure appropriate pre-hospital assessment and management of medical and trauma patients, as well as associated manual skills. The field internship activity shall include a minimum of 5 emergency runs resulting in patient care and transport appropriate for the EMT. In addition, the patient care component should include minimum competencies in patient assessment, airway management and ventilation, trauma and medical emergencies.

Special Notes

This program is ONLY authorized to be offered at the following districts: Lake, Manatee, Palm Beach, St. Johns, Sarasota and Taylor.

Once the students have successfully completed the EMT Program, They may be given a certificate stating that they have met all Emergency Medical Responder requirements.

This program W170205 has a statewide articulation agreement approved by the Florida State Board of Education:

Emergency Medical Services AS (1351090402) – 11 credit hours

Students who have completed an Emergency Medical Technician program at one of the grandfathered technical centers can enroll in a community college Emergency Medical Services-Associates Degree or PSV-C program within five years of their completion date. Students seeking credit after five years must show proof of current EMT or Paramedic licensure. Students entering the community college will receive the same credit as native PSV-C completers in these programs. Such students, however, must first meet the college's entry, residency, and academic requirements.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Cooperative Training – OJT

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.