

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
Standard Length	Multiple credits
Teacher Certification	Refer to the <u>Course Structure</u> 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	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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 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
Standard Length	1 credit
Teacher Certification	Refer to the <u>Course Structure</u> 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 totaling one credit.

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	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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

CTE Standards and Benchmarks	
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	
01.04	Demonstrate ability to follow written and oral directions.
01.05	Discuss the difference between constructive and non-constructive criticism.
01.06	Define, pronounce and spell common medical terms and abbreviations necessary to safely carry out medical instructions.
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.
02.02	Convert common weights, measures and volumes to metric.
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.
03.02	Identify the basic components of the health care delivery system.

CTE Standards and Benchmarks

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
- 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.

05.0 Demonstrate first aid, CPR, and BLS. – The student will be able to:

05.01 Describe wounds and the appropriate first aid treatment.

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.

05.06 Demonstrate immobilization for suspected fractures.

CTE Standards and Benchmarks

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.

05.09 Perform skills in BLS.

05.10 Describe first aid for choking.

05.11 Determine the priority of care in an emergency situation.

05.12 Demonstrate activation of the Emergency Medical System (EMS).

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.

06.02 Define advanced directives and health care surrogate.

06.03 Discuss legal procedures for donating organs.

06.04 Discuss the need for health insurance and the different types available (Affordable Care Act, Medicaid, Medicare, and private insurance).

07.0 Discuss the factors that affect whole body wellness. – The student will be able to:

07.01 Define stress/stressors.

07.02 Identify problem solving skills to resolve stress.

07.03 Demonstrate stress reduction techniques.

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.

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.

CTE Standards and Benchmarks

08.02 Describe mortuary science.

08.03 Discuss and describe services provided by funeral directors/funeral homes.

08.04 Discuss and describe services provided by hospice.

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.

09.02 Identify community resources and services available to the individual with diseases caused by blood borne pathogens.

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.

09.04 Demonstrate knowledge of the legal aspect of HIV/AIDS, including testing.

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.

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: X-ray, MRI, CT scan, and CPET).

10.02 Discuss how computers affect legal and ethical questions in the health field.

10.03 Discuss how HIPPA regulations affect the privacy of electronic health records.

11.0 Demonstrate employability skills. – The student will be able to:

11.01 Locate and identify local job openings in health care.

11.02 Complete a job application.

11.03 Prepare for a job interview.

11.04 Discuss professionalism and the ethical role and responsibility of the healthcare worker.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	Multiple credits
Teacher Certification	Refer to the <u>Course Structure</u> 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	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

Common Career Technical Core – Career Ready Practices

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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. It can be accessed on the DOE website.

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)

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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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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: Exercise Science
Program Type: Career Preparatory
Career Cluster: Health Science

Secondary – Career Preparatory

Program Number	8417000
CIP Number	0331050405
Grade Level	9-12
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	39-9031 Fitness Trainers and Aerobics Instructors 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, 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417100) is required as a prerequisite for all programs and options. Secondary students completing the two required core courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
8417120	Exercise Science	PH THER TEC @7 G HEALTH FIT SPEC 7G MED PROF 7 G	1 credit	39-9031	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

Common Career Technical Core – Career Ready Practices

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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). 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 courses 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.

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.

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: 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.

CTE Standards and Benchmarks	
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.
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.

CTE Standards and Benchmarks

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 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:

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.

CTE Standards and Benchmarks

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
- 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 student will be able to:

32.01 Perform patient education utilizing concepts of communication and differing learning styles.

32.02 Classify health fitness standards, including components of wellness, 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.

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.

CTE Standards and Benchmarks

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:
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.

CTE Standards and Benchmarks

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, HIPAA, 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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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: Allied Health Assisting
Program Type: Career Preparatory
Career Cluster: Health Science

Secondary – Career Preparatory

Program Number	8417130
CIP Number	0317029903
Grade Level	9-12
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs and options. Secondary students completing the two required core courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
8417131	Allied Health Assisting 3		1 credit	31-9099	2	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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 one (1) to three (3) major allied health areas in the school laboratory before beginning the clinical phase.
- 29.0 Successfully complete a clinical rotation in at least one (1) to three (3) 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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
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:
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 such as glucose, A1C, and hemoglobin.
28.02.02	Describe the process for preparing a blood slides for differential blood count.
28.02.03	Report urine specific gravity, color and characteristics.
28.02.04	Perform centrifuge operation and maintenance.
28.02.05	Name (or identify) and explain the use of the common instruments/equipment found in the clinical laboratory.
28.02.06	Demonstrate knowledge of specimen differentiation and procedure interference's.
28.02.07	Perform communication skills specifically related to laboratory science.
28.02.08	Discuss the process of performing venipunctures.
28.02.09	Name and discuss the specialty areas within laboratory (hematology, clinical chemistry, microbiology, etc.).
28.02.10	Explain the criteria set forth in CLIA to classify laboratory testing as waived, moderate complexity or high complexity.
28.02.11	Explain the levels and qualifications for testing personnel as set forth in CLIA (complexity based) and as established by state law (licensure categories).
28.03	If unlicensed physical restorative type skills is one of the selected allied health areas to be taught, students will:
28.03.01	Describe the functions of bones and muscles as related to the practice of physical therapy.
28.03.02	Define disability and identify types of disabilities.
28.03.03	Name and discuss the avenues of physical therapy practice.
28.03.04	Describe equipment used in physical therapy.

CTE Standards and Benchmarks

28.03.05	Perform safe body mechanics and transfer
28.03.06	Demonstrate an understanding of the use of modalities (i.e. Ultrasound, heat and cold therapeutic massage, E-STEM, wound care, elastic stockings).
28.03.07	Describe the process of hydrotherapy.
28.03.08	Perform communication skills specifically related to physical therapy.
28.03.09	Identify, describe, and demonstrate the use of devices such as crutches, walkers, canes, and wheelchairs.
28.03.10	Demonstrate techniques used in active and passive range of motion exercises.
28.03.11	Instruct patients in bed/wheelchair mobility.
28.03.12	Describe the relationship between long-term and short-term goals.
28.04	If unlicensed occupational restorative type skills is one of the selected allied health areas to be taught, students will:
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.
28.04.04	Describe the splint making process.
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.
28.04.08	Perform and instruct range of motion exercises.
28.04.09	Name and discuss the avenues of occupational therapy practice.
28.04.10	Train the client in activities of daily living skills such as clothing care skills, food preparation, and money management.
28.05	If unlicensed respiratory restorative type skills is one of the selected allied health areas to be taught, students will:
28.05.01	Name and discuss the avenues of respiratory care practice.
28.05.02	Describe common respiratory diseases (asthma, emphysema, chronic bronchitis, and atelectasis) and common medications used to treat respiratory diseases.
28.05.03	Recognize normal breath sounds when auscultating the chest with a stethoscope.
28.05.04	Describe the use of gas reducing and flow regulating equipment.
28.05.05	Demonstrate and discuss the use of incentive spirometers.
28.05.06	Differentiate between various oxygen delivery devices (nasal cannulas, simple and re-breathing masks, oxy-hoods, and enclosures).
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.
28.05.10	Discuss and practice the use of the pulse oximeter.
28.05.11	Describe the equipment and use of humidity/aerosol.
28.06	If medical administrative assisting type skills is one of the selected allied health areas to be taught, students will:
28.06.01	Demonstrate an understanding of basic medical terminology e.g. prefixes, suffixes, abbreviations, and root words related to major body systems.
28.06.02	Demonstrate an understanding of straight numerical, alphabetical and terminal digit filing.

CTE Standards and Benchmarks

28.06.03	Demonstrate computer literacy, keyboarding and retrieval skills.
28.06.04	List procedures for scheduling and referring patients, handling walk-in emergency patients, and telephone etiquette, and procedures.
28.06.05	Understand what is required to create and submit a medical bill
28.06.06	Define a release of medical information, explanation of benefit, assignment of benefit, and electronic remittance advice.
28.06.07	Develop an understanding of healthcare coverage and be able to interpret the information contained on the patient's insurance card.
28.06.08	Discuss the various types of medical records such as electronic health record (EHR), digital records, and paper records with regard to content and security.
28.06.09	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.
28.07	If unlicensed Radiologic type skills is one of the selected allied health areas to be taught, students will:
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.
28.07.03	Describe how radiation produces an image on film and through digital technology.
28.07.04	Identify the process by which x-ray film is developed.
28.07.05	Identify anatomical position and terminology medial, lateral, superior, inferior, anterior/ventral, and posterior/dorsal).
28.07.06	Identify patient properly to include doing the correct procedure on the correct patient in the right location (check identification band, etc.).
28.07.07	Explain appropriate exam(s) to the patient.
28.07.08	Perform safe body mechanics and transferring skills of patient onto x-ray table.
28.07.09	Position patient for exam(s) (chest, KUB, hand and foot).
28.07.10	Position x-ray tube to simulate exposure for exam(s) (chest, KUB, hand, and foot).
28.07.11	Position patient in supine, prone, lateral, oblique, AP, PA of appropriate part.
28.08	If unlicensed geriatric type skills are to be taught, students will:
28.08.01	Recognize types of long term care facilities and levels of care.
28.08.02	Be familiar with legislation affecting long term care.
28.08.03	Discuss physical and emotional effects of aging and appropriate ways of dealing with them.
28.08.04	Recognize the stages of dementia and the care of residents in each stage.
28.08.05	Discuss reality orientation, reminiscing, and validation therapy.
28.08.06	Describe ways to meet the nutritional needs through diet, dietary supplements, and mechanisms to provide supplements.
28.08.07	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.
28.08.08	Check integrity of patient's skin condition and take appropriate actions when needed.
28.08.09	Recognize common chronic illnesses and the special care required.
28.08.10	Provide appropriate end of life care.
28.08.11	Describe common medications taken by the elderly and chronically ill, their effects, and side effects.
28.09	If electrocardiograph technician skills are to be taught, students will:
28.09.01	Describe the cardiovascular system.

CTE Standards and Benchmarks

	28.09.01.1	Correlate the anatomy of the heart to the placement of leads for an EKG including special needs populations.
	28.09.01.2	Correlate the electrical conduction system of the heart to the rhythms.
	28.09.01.3	Compare and contrast polarization, depolarization and repolarization as it applies to patient care scenarios.
	28.09.01.4	Describe the usual pattern of electrical flow through the conduction system including the five major areas and physical layout.
	28.09.01.5	Give the inherent rates for the SA node, the AV junction, and the ventricles.
	28.09.02	Demonstrate an understanding of the role and responsibilities of the EKG tech.
	28.09.02.1	Recognize and practice legal and ethical responsibilities as they relate to an EKG tech.
	28.09.02.2	Prepare and maintain all EKG equipment
	28.09.02.3	Identify patient and verify the requisition order.
	28.09.02.4	State precautions required when performing diagnostic procedures.
	28.09.02.5	Recognize a cardiac emergency.
	28.09.03	Demonstrate knowledge of, apply and use medical instrumentation modalities.
	28.09.03.1	Calculate a patient's heart rate from the EKG tracing (for example 6-second method).
	28.09.03.2	Perform a 12 lead EKG.
	28.09.04	Recognize normal and abnormal monitoring.
28.10	If unlicensed veterinary type skills is one of the selected allied health areas to be taught, students will:	
	28.10.01	Discuss ethical considerations related to animal care and use.
	28.10.02	Describe Science within the animal care industry.
	28.10.03	Identify common domestic animal species and breeds.
	28.10.04	Apply academic skills to animal care situations, terminology, and veterinary medical dosages.
	28.10.05	Describe basic concepts of animal nutrition.
	28.10.06	Provide appropriate general care to a variety of common companion animal species.
	28.10.07	Safely handle, restrain, confine, and examine companion animals,
	28.10.08	Demonstrate proper grooming techniques for animals.
	28.10.09	Describe how to socialize young animals and how to perform basic obedience training for dogs.
	28.10.10	Describe and demonstrate procedures for identifying, preventing, and controlling diseases of companion animals and zoonotic diseases.
	28.10.11	Describe basic knowledge of laboratory procedures used in veterinary practice.
	28.10.12	Assist with veterinary nursing procedures.
	28.10.13	Demonstrate knowledge of veterinary office procedures.
28.11	If biomedical research type skills is one of the selected allied health areas to be taught, students will:	
	28.11.01	Comprehend technical vocabulary.
	28.11.02	Document lab results accurately.
	28.11.03	Recognize hazardous lab conditions.
	28.11.04	Maintain safe work environment, including but not limited to correct handling, storing, and disposing of hazardous

CTE Standards and Benchmarks

	materials, and use of personal protective equipment.
28.11.05	Research regulatory bodies (OSHA, NIH, NR, DOT, EPA, CDC, NRC, CLIA, DEA and FDA)
28.11.06	Discuss testing methods and inspection procedures in relation to quality control.
28.11.07	Monitor environmental conditions of research facility (growth chamber, greenhouse, seed storage room, animal housing or manufacturing site).
28.11.08	Discuss the proper utilization of test plants and animals.
28.11.09	Prepare solutions and reagents for laboratory use.
28.11.10	Operate laboratory equipment.
28.11.11	Identify common microorganisms.
28.11.12	Explain how to culture and perform bioassays.
28.11.13	Discuss genetic engineering skills.
28.11.14	Utilize problem solving skills.
28.11.15	Practice asepsis.
28.11.16	Discuss sterilization techniques, including proper packaging of sterile goods.
29.0	Successfully complete a clinical rotation in at least one (1) to Three (3) major allied health areas. -- The student will be able to:
29.01	Demonstrate or observe skills in the clinical setting as outlined in the above standard.
29.02	Complete One (1) - three (3) clinical rotations under the supervision of a duly licensed/certified allied health care professional.
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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs and options. Secondary students completing the two required core courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
8417141	Dental Aide 3	DENTL ASST @7 7G	1 credit	31-9099	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks

28.0 Use dental terminology. - The student will be able to:

28.01 Identify and define common dental terms.

28.02 Demonstrate the use of proper dental terminology in the dental environment.

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.

29.02 Identify teeth and their landmarks.

29.03 Describe the histological components of the head, oral cavity, and elements of the teeth and supporting structures.

29.04 Recognize and describe oral pathological conditions.

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.

30.02 Describe pathogens and modes of disease transmission.

30.03 Differentiate between aseptic and non-aseptic environments.

30.04 Perform aseptic handwashing technique.

CTE Standards and Benchmarks

30.05	Describe and apply methods of cleaning, disinfection and sterilization.
30.06	Identify chemicals and their uses for controlling the spread of disease in the dental environment.
30.07	Identify and practice the current CDC guidelines for infection control in dental healthcare settings.
30.08	Describe the duties of the dental office safety coordinator.
30.09	Identify areas of the OSHA Blood borne Pathogens Standard (29CFR-1910.1030) applicable to the dental office environment.
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.
31.02	Describe legal and ethical consideration/obligations in the dental team-patient relationship.
31.03	Explain risk management.
31.04	Identify areas of Florida Statute 466 and Rule 64B5-16 FAC applicable to practice by the dental health workers.
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.
32.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.
32.03	Maintain dental operatory equipment-and instruments.
32.04	Identify types and functions of specific dental hygiene instruments with emphasis on category rather than individual instruments.
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.
33.02	Describe the manipulative skills necessary to properly prepare dental materials for use both intraorally and extra orally.
33.03	Identify the primary objectives of the Council on Dental Materials and Devices of the American Dental Association.
33.04	Identify organizations responsible for establishing standards for dental materials.
33.05	Describe the physical conditions in the oral cavity which influence the selection of dental materials.
33.06	Describe the biological characteristics of dental materials which may limit their use in the oral cavity.

CTE Standards and Benchmarks

33.07 List factors which must be considered when selecting dental materials.

33.08 Define terms related to dental materials and science.

34.0 Describe basic dental laboratory procedures. - The student will be able to:

34.01 Identify properties and manipulate gypsum.

34.02 Identify properties and manipulate impression materials.

34.03 Identify properties and manipulate extra orally used waxes.

34.04 Perform laboratory infection control.

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.

35.02 Assemble instruments for general/and specialty dental procedures.

36.0 Identify specialty dental procedures. - The student will be able to:

36.01 Identify and describe oral maxillofacial surgery.

36.02 Identify and describe orthodontics.

36.03 Identify and describe periodontics.

36.04 Identify and describe prosthodontics.

36.05 Identify and describe pedodontics.

36.06 Identify and describe endodontics.

36.07 Identify and describe public health dentistry.

37.0 Identify dental business office procedures. - The student will be able to:

37.01 Describe appointment control.

37.02 Describe an active recall system.

37.03 Describe steps for maintaining accurate patient records.

CTE Standards and Benchmarks

37.04 Describe steps for maintaining patient financial records and collecting fees.

37.05 Describe methods of dental office inventory control.

37.06 Describe public relations responsibilities of the secretary/receptionist.

37.07 Identify skills required for operating on office equipment.

37.08 Describe an optimal dental office environment.

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.

Academic Alignment

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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:

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For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Special Notes

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	4 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling four credits. The two credit Health Science Core (Health Science Anatomy & Physiology 841700 and Health Science Foundations 8417110) 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.

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	SOC Code	Level	Graduation Requirement
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	
8417151	Dental Laboratory Assisting 3	DEN LABTEC 7G	1 credit	51-9081	2	
8417152	Dental Laboratory Assisting 4		1 credit	51-9081	2	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
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 lab. - 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.
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:
31.01	Fabricate a variety of dental models from impressions using appropriate gypsum products and techniques,

CTE Standards and Benchmarks

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:

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

Special Notes

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new

applications of competencies each year toward completion of the CTE course. 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
Standard Length	2.5 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling 2.5 credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G	1 credit	31-9099	3	EQ
8417110	Health Science Foundations	(See DOE approved list)	1 credit	31-9099	3	
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 PRAC NURSE @7 %7%G (Must be a Registered Nurse)	.5 credit	31-9099	2	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
28.0	Describe the cardiovascular system. -- The student will be able to:
28.01	Locate the heart and surrounding structures.
28.02	Diagram and label the parts of the heart and list the functions of each labeled part.
28.03	Trace the flow of blood through the cardiopulmonary system.
28.04	Identify and describe the electrical conduction system.
28.05	Describe the function of the autonomic nervous system.
28.06	Describe signs and symptoms of a patient demonstrating poor perfusion or low cardiac output and state the importance of rapid reporting.
29.0	Identify legal and ethical responsibilities of an EKG aide. -- The student will be able to:
29.01	Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
29.02	Maintain a safe and efficient work environment.
29.03	Maintain EKG equipment so it will be safe and accurate.
29.04	Implement appropriate Joint Commission patient safety goals and adhere to HIPAA regulations regarding protected health information (PHI).
30.0	Demonstrate knowledge of, apply and use medical instrumentation modalities. -- The student will be able to:

CTE Standards and Benchmarks

30.01	Calibrate and maintain EKG equipment in the work environment.
30.02	Identify three types of lead systems (standard/limb, augmented, and precordial/chest).
30.03	State Einthoven's triangle.
30.04	Demonstrate proper lead placement including lead placement with special considerations for various patients with special needs to include pediatric, amputees, and posterior and right sided EKGs.
30.05	Identify artifacts and mechanical problems.
30.06	Perform a 3, 5, and 12 lead EKG.
30.07	Recognize normal sinus rhythm.
30.08	Report dysrhythmias that are not normal sinus rhythm.
30.09	Recognize sign and symptoms of cardiopulmonary compromise on the EKG tracing and understand the importance of rapid reporting.
30.10	Verify accuracy of lead placement on the EKG.
30.11	Verify settings on the EKG machine such as paper speed, sensitivity (gain), and Hertz (Hz) prior to use.
31.0	Perform patient care techniques in the health care facility. -- The student will be able to:
31.01	Describe the physical and mental preparation of the patient for EKG testing.
31.02	Identify patient and verify the requisition order.
31.03	Prepare patient for cardiovascular diagnostic testing.
31.04	State precautions required when performing diagnostic procedures.
31.05	Convey the importance of maintaining a safe patient environment and evaluate potential hazards in the 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.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	53-3011 Ambulance Drivers and Attendants, Except Emergency Medical 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.

This instructional program 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, lifeguard, 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
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	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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 spinal motion restriction 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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
28.0	Demonstrate an understanding of the roles and responsibilities of the Emergency Medical Responder. - The student will be able to:
28.01	Describe the role of Emergency Medical Responder as a member of the EMS team.
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.
28.03	Describe principles of safely operating a ground ambulance.
28.04	Understand the guidelines of operating safety in and around a landing zone during air medical operations and transport.
28.05	Implement appropriate Joint Commission patient safety goals.
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.
29.02	Describe information regarding a patient's condition and treatment that need to be communicated.
29.03	Communicate the Emergency Medical Responder's observations and actions to whomever patient care is transferred.
29.04	Describe and apply the principles of communicating with patients in a manner that achieves a positive relationship.
29.05	Recognize simple medical prefixes, suffixes, combining vowels, and words.
30.0	Demonstrate an understanding of medicolegal aspects. - The student will be able to:
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.
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:
31.01	Determine and record skin color, temperature and moistness.
31.02	Demonstrate ability to accurately measure and record vital signs including manual blood pressure.
32.0	Use medical identification devices. - The student will be able to:

CTE Standards and Benchmarks

32.01	Identify the most commonly used digital medical identification devices.
32.02	Apply the information contained on or in the medical identification devices to patient assessment and patient care procedures.
33.0	Conduct a primary assessment of problems that are a threat to life if not corrected immediately. - The student will be able to:
33.01	Determine and record the level of consciousness of the injured person including person, place, time, and events.
33.02	Assess for an inadequate airway, inadequate respiration's, inadequate circulation, and profuse bleeding.
33.03	Recognize when immediate correction is necessary.
33.04	Assess patient and determine if the patient has a life threatening condition.
33.05	Use spinal precautions as appropriate.
34.0	Demonstrate Basic Life Support (BLS) procedures. - The student will be able to:
34.01	Establish and maintain an open airway using both manual and mechanical airway techniques.
34.02	Restore breathing and circulation by means of cardiopulmonary resuscitation (CPR).
34.03	Demonstrate proficiency in the use of an automated external defibrillator (AED).
35.0	Recognize and control bleeding. - The student will be able to:
35.01	Identify items that can be used to control external bleeding and minimize the contamination of open wounds.
35.02	Apply pressure dressings, tourniquets, and wound packing that will control bleeding/hemorrhage and minimize the contamination of open wounds.
35.03	Identify the likelihood of internal bleeding through observations of signs, symptoms, and mechanisms of injury.
35.04	Care for a patient who exhibits the signs and symptoms of internal bleeding.
35.05	Apply current trauma treatment standards when applying a tourniquet, which may include Pre-Hospital Trauma Life Support (PHTLS) standards.
36.0	Recognize and control shock. - The student will be able to:
36.01	Recognize the likelihood that shock may occur or be present based on patient assessment and observation of a mechanism of injury.
36.02	Provide anti-shock measures as a part of routine patient care.
37.0	Understand the importance of emergency medications. - The student will be able to:
37.01	Understand the advantages, disadvantages, and techniques of self and peer administration of an intramuscular injection by auto injector.
37.02	Describe the names, effects, indications, routes of administration, and dosages for specific medications (I.E chemical antidote auto injector devices).
37.03	Demonstrate how to observe and respond to patient's need for narcotic antagonists.
37.04	Demonstrate accurate dosage calculation.
37.05	Demonstrate the six rights of administering narcotic antagonists.
37.06	Demonstrate how to administer narcotic antagonists.
37.07	Document administration of narcotic antagonists and patient's response on medical record.
37.08	Observe and communicate effects of medications to the patient's assigned EMT/Paramedic.
38.0	Demonstrate understanding of airway management, respiration, and artificial ventilation. - The student will be able to:
38.01	Apply knowledge of anatomy and physiology to airway management procedures (I.E. oxygenation and perfusion).
38.02	Understand the pathophysiology of respiratory dysfunction.

CTE Standards and Benchmarks

38.03	Use available mechanical devices to assure the maintenance of an open airway and assist ventilation according to American Heart Association (AHA) standards.
38.04	Demonstrate proficiency in supplemental oxygen therapy including portable oxygen cylinder and oxygen delivery devices.
38.05	Describe and demonstrate airway management utilizing upper airway suctioning.
39.0	Provide secondary assessment. - The student will be able to:
39.01	Conduct a methodical head-to-toe physical examination to discover conditions not found during the primary assessment.
39.02	Interview the sick or injured person to obtain facts relevant to the person's condition.
39.03	Interview co-workers, witnesses, family members, or other individuals to obtain facts relevant to the person's condition.
40.0	Identify musculoskeletal injuries. - The student will be able to:
40.01	Identify the various types of musculoskeletal injuries.
40.02	Immobilize and otherwise care for suspected fractures, dislocations, sprains, and strains with available supplies and equipment, including commercially available and improvised devices.
40.03	Demonstrate an understanding of the function and need for traction splints.
41.0	Demonstrate proper spinal motion restriction of a cervical/spinal injury. - The student will be able to:
41.01	Identify need for spinal motion restriction.
41.02	Maintain in-line spinal motion restriction of cervical spine.
41.03	Place proper fitting rigid extrication-type cervical collar.
41.04	Place patient in supine position on appropriate spine board based on patient condition.
41.05	Secure patient to spinal motion restriction device.
42.0	Demonstrate proper extremity immobilization as well as other immobilization for other injuries (pelvis, ribs). - The student will be able to:
42.01	Identify need for extremity immobilization.
42.02	Assesses motor, sensory, and distal circulation in extremities.
42.03	Place proper fitting splint on extremity.
42.04	Reassess motor, sensory, and distal circulation in extremities.
43.0	Provide emergency evacuation and transfer of a sick and/or injured person. - The student will be able to:
43.01	Describe situations when a person should be evacuated or transferred.
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.
43.03	Maintain safety precautions during evacuation and transfer.
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:
44.01	Identify and care for patients with non-traumatic chest pain, utilizing patient assessment.
44.02	Identify and care for patients experiencing respiratory distress utilizing patient assessment.
44.03	Identify and care for patients experiencing a diabetic emergency utilizing patient assessment.
44.04	Identify and care for a patient who is experiencing a seizure utilizing patient assessment.
44.05	Identify and care for a patient who has ingested, inhaled, absorbed, or been injected with a poisonous substance.
44.06	Identify and care for a patient who is in an altered state of consciousness utilizing patient assessment.
44.07	Identify and care for a patient who is experiencing a stroke utilizing patient assessment.

CTE Standards and Benchmarks

44.08	Identify and care for a patient who has a foreign body in the eye utilizing patient assessment.
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.
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.
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 (including but not limited to abuse, domestic violence, and sex trafficking).
45.02	Care for injured/ill children.
45.03	Care for the injured/ill elderly.
45.04	Care for the injured/ill physically disabled.
45.05	Care for the injured/ill developmentally disabled.
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 based on patient assessments.
46.02	Use triage tags or other identification devices available locally to indicate priorities for pre-hospital emergency care and transportation to medical facilities.
46.03	Work as a member of a team to perform triage at locations of multiple casualty incidents.
46.04	Work as a member of a team to perform patient assessments at locations of multiple casualty incidents.
46.05	Work as a member of a team to carry out patient care procedures at the locations of multiple casualty incidents.
46.06	Demonstrate knowledge of the operating procedures during a terrorist event or during a natural or man-made disaster.
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
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 based on scene assessment.
48.0	Recognize entrapment situations. - The student will be able to:
48.01	Identify accident-related hazards and undertake hazard control measures consistent with the capabilities of the Emergency Medical Responder and available equipment.
48.02	Recognize available equipment that is used to safely gain access to persons who are entrapped.
48.03	Recognize available equipment that is used to safely disentangle persons from mechanisms of entrapment.
48.04	Identify which agencies to notify for assistance with entrapment situations.
49.0	Assist with emergency childbirth. - The student will be able to:
49.01	Evaluate a mother to determine whether delivery is imminent.
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.
50.0	Identify critical incident stressors. - The student will be able to:

CTE Standards and Benchmarks

50.01 Identify stressors which may affect the performance of an Emergency Medical Responder.

50.02 Identify stressors which may affect the behavior of a sick or injured person.

50.03 Carry out procedures to minimize critical incident stress.

50.04 Identify signs and symptoms of PTSD and the resources available for treatment.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	2.5 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling 2.5 credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
8417191	Home Health Aide 3	REG NURSE 7 G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	.5 credit	31-1011	2	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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 Prioritize and perform functions following the patient care plan.
- 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). 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 courses 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.

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.

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 prepares 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.

CTE Standards and Benchmarks	
28.0	Use verbal and written communications specific to home health aide. - The student will be able to:
28.01	Obtain specified data from patient and family.
28.02	Utilize verbal and written information to assist with the patient's care plan.
29.0	Demonstrate legal and ethical responsibilities specific to home health aide. - The student will be able to:
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 abuse, physical verbal, and substance.
29.04	Follow legal guidelines in documentation.
29.05	Exhibit behavior supporting and promoting residents' rights.
29.06	Recognizes and follows scope of proactive and role limitations for a home health aide.
30.0	Perform physical comfort and safety functions specific to home health aide. - The student will be able to:
30.01	Maintain a clean and safe home environment for the patient.
30.02	Adjust bed and/or side-rails.
30.03	Transfer patient with mechanical lift using proper body mechanics and patient safety measures.

CTE Standards and Benchmarks

30.04	Demonstrate proper turning and positioning according to care plan.
30.05	Implement fall prevention measures as directed, i.e. clutter free pathways, locked wheelchair, etc.
30.06	Apply supportive comfort devices as directed (e.g. footboard, over-bed cradle, alternating pressure mattress).
30.07	Demonstrate and assist patient to dangle.
30.08	Assist patient in ambulation, including the use of crutch, cane, or walker.
30.09	Demonstrate the proper wheel chair safety technique and assist the patient as needed with use.
30.10	Assist patient with care and use of prosthetic/orthotic devices.
30.11	Describe emergency evacuation procedures with adaptations to the home setting.
30.12	Implement appropriate regulatory and accrediting agency patient safety guidelines.
31.0	Provide personal patient care. - The student will be able to:
31.01	Perform bed bath; observe and report changes in a patient.
31.02	Perform back rub.
31.03	Demonstrate 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.
31.04	Assist with shower or tub bath, including use of specialty tubs.
31.05	Assist patient with sink, tub, shower, shower cap, or bed shampoo.
31.06	Demonstrate the use of a safety and/or electric razor to shave the patient.
31.07	Demonstrate how to groom patient, including hair, skin, foot, and nail care.
31.08	Assist with and/or administer oral hygiene, including denture care.
31.09	Assist patient with toileting, using various types of restorative and rehabilitative equipment.
31.10	Assist patient to dress.
31.11	Assist patient with meals.
32.0	Perform patient care procedures. - The student will be able to:

CTE Standards and Benchmarks

32.01 Make unoccupied/occupied bed.

32.02 Provide passive range-of-motion exercises.

32.03 Apply anti-embolic hose and sequential compression devices.

32.04 Understand and demonstrate proper collection of urine, strained, timed urine, and/or routine urine specimen.

32.05 Observe skin while bathing for allergic reaction to catheter or any leaking.

32.06 Monitor fluid intake and output (I&O), including encouraging and restricting fluids.

32.07 Observe, record, and report patient's emesis.

32.08 Assist with ostomy care and alert nurse of any unusual observations while performing skin care.

32.09 Collect stool specimen and alert nurse of unusual odors, colors, or character.

32.10 Care for patients receiving oxygen therapy making sure patient receives correct flow of oxygen.

33.0 Apply principles of nutrition. - The student will be able to:

33.01 Identify nutrients and food groups.

33.02 Identify and implement regional, cultural, and religious food guidelines/preferences.

33.03 Describe special diets.

33.04 List factors that must be considered when purchasing food.

33.05 Follow the prescribed basic food plan.

33.06 List factors that must be considered when storing food.

33.07 Identify methods of maintaining fluid balance including encouraging and restricting fluids.

33.08 Identify methods of food preparation.

33.09 Discuss preparation and serving of trays in the home.

34.0 Provide care for geriatric patients. - The student will be able to:

34.01 Identify safety principles as related to the elderly.

CTE Standards and Benchmarks

34.02	Describe general characteristics, particular needs, and problems of the elderly.
34.03	Identify attitudes and living habits that promote positive mental and physical health for the elderly.
34.04	Distinguish between fact and fallacy about the aging process.
34.05	Identify community resources and services available to the elderly and their caregiver.
34.06	Apply reality orientation techniques and validation therapy.
34.07	Provide and involve patients in diversional activities.
34.08	Identify common alterations in elderly patient behavior or health status and follow up within the home health aide scope of performance.
34.09	Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions).
35.0	Apply the principles of infection control specific to home health aide. - The student will be able to:
35.01	Provide care for patients with infectious diseases in the home.
35.02	Follow isolation procedures with food tray, personal protective equipment (PPE), supplies/equipment, and other materials in the home.
35.03	Utilize standard precautions in all home care.
35.04	Discuss transmission-based precautions.
36.0	Provide bio-psycho-social support. - The student will be able to:
36.01	Discuss family roles and their significance to health.
36.02	Respond to patient and family emotional needs.
37.0	Prioritize and perform functions following the patient care plan. – The student will be able to:
37.01	Organize patient-care assignments.
37.02	Complete assignments accurately and in a timely manner per care plan.
38.0	Assist with rehabilitative activities. - The student will be able to:
38.01	List the purposes of restorative (rehabilitation) programs.
38.02	Assist patient with specified restorative (rehabilitation) needs.

CTE Standards and Benchmarks

38.03 Assist patients/residents to reach the optimum level of independence.

39.0 Perform home health-care services. - The student will be able to:

39.01 Establish and follow a collaborative care plan with patient and family.

39.02 Perform patient-related cleaning tasks and laundry per care plan.

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.

39.05 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.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	4 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling four credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
8417201	Medical Laboratory Assisting 3	LAB TECH @7 7G	1 credit	29-2012	3	
8417202	Medical Laboratory Assisting 4		1 credit	29-2012	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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 Medical Lab Assistant program. **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.**

CTE Standards and Benchmarks	
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.
28.03	Explain in detail the importance of identifying patients correctly when drawing blood.
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.
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.
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.).
30.0	Identify the anatomic structure and function of body systems in relation to services performed by phlebotomist. – The student will be able to:
30.01	Describe and define major body systems with emphasis on the circulatory system.

30.02	List and describe the main superficial veins used in performing venipuncture.
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.
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:
31.01	Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
31.02	Explain the special precautions and types of equipment needed to collect blood from the pediatric patient.
31.03	Identify and discuss proper use of supplies used in collecting short-draw specimens or difficult draws.
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.
31.05	Describe the types of specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory.
31.06	Describe substances potentially encountered during phlebotomy which can interfere in analysis of blood constituents.
31.07	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
32.0	Demonstrate skills and knowledge necessary to perform phlebotomy. – The student will be able to:
32.01	Follow approved procedure for completing a laboratory requisition form.
32.02	Recognize a properly completed requisition.
32.03	Demonstrate knowledge of established protocol for patient and specimen identification.
32.04	Discuss appropriate methods for facilitating and preparing the patient for capillary and venipuncture collection.
32.05	List appropriate antiseptic agents useful in preparing sites for capillary and venipuncture.
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.
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.
32.11	Recognize and respond to possible adverse patient reactions such as allergies, convulsions, syncope, light headedness, vomiting, and nerve involvement.
32.12	Perform appropriate procedures for disposing of used or contaminated capillary and venipuncture supplies.
32.13	Perform appropriate techniques for making a peripheral blood smear for hematologic evaluation.
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:
33.01	Define the term hospital acquired infection.
33.02	Describe and practice procedures for infection prevention including hand washing skills.
33.03	Discuss transmission based precautions.
33.04	Identify potential routes of infection and their complications.
34.0	Practice accepted procedures of transporting, accessioning, and processing specimens. – The student will be able to:
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.
34.02	Demonstrate knowledge of accessioning procedures.
34.03	Describe the significance of time constraints for specimen collection, transporting and delivery.
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:
35.01	Distinguish and perform procedures which ensure reliability of test results when collecting blood specimens.
35.02	Practice appropriate patient safety.
35.03	Practice safety in accordance with OSHA (state & federal guidelines) for chemical, biological, and PPE established procedures including proper disposal of sharps and biohazardous materials.
35.04	Follow documentation procedures for work related accidents.
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 Medical Lab Assistant program. 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	
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.
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.
36.03	Explain the differences in requirements for a physician practice laboratory, a hospital laboratory and an independent clinical laboratory.
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.
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:
37.01	Explain the characteristics of the International Classification of Disease System (ICD), and its important function in substantiating the clinical record.
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.
37.03	Explain the differences between analyte, method, and unlisted procedure CPT codes and the hierarchy for selecting CPT codes for reporting laboratory tests.
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.

CTE Standards and Benchmarks

37.05 Review the concept of congressionally mandated screening tests under the Medicare Program.

38.0 Demonstrate basic knowledge of microbiology. -- The student will be able to:

38.01 Perform techniques of microbiology related to disinfection techniques.

38.02 Discuss techniques of microbiology related to isolation techniques.

38.03 Perform techniques of microbiology related to sterilization techniques.

38.04 Perform techniques of microbiology related to slide preparation.

38.05 Describe the basic operation and principles related to usage of microscopes.

38.06 Understand the staining and microscopic examination of gram stains.

38.07 Discuss techniques of microbiology related to primary inoculation media, specimen types, and transfer of cultures.

38.08 Perform basic techniques of microbiology in respect to routine and emergency specimen collection including time constraints.

38.09 Discuss classification, composition and preparation of culture media.

39.0 Demonstrate basic knowledge of urinalysis. – The student will be able to:

39.01 Understand urinalysis techniques related to normal and abnormal components of the urine.

39.02 Perform urinalysis techniques related to collection and preservation of specimens and time constraints.

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.

39.05 Discuss urinalysis techniques related to urine specific gravity techniques.

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.

39.08 Perform urinalysis techniques related to principles and use of centrifuge.

40.0 Demonstrate basic knowledge of clinical chemistry. – The student will be able to:

40.01 Perform techniques of clinical chemistry related to metric measurement.

CTE Standards and Benchmarks

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.

40.04 Discuss techniques of clinical chemistry related to standardization of procedure and use of standards, blanks and controls.

40.05 Discuss the importance of quality assurance as it relates to patient results.

40.06 Discuss techniques of clinical chemistry related to visual colorimetry, calibration and use of the spectrophotometer.

40.07 Demonstrate an understanding of the relationship between common clinical chemical tests and specific body systems and disorders.

41.0 Demonstrate basic knowledge of hematology. -- The student will be able to:

41.01 Discuss techniques of hematology related to counting formed elements of blood.

41.02 Perform techniques of hematology related to preparation and staining.

41.03 Discuss techniques of cell differential microscopic examination of blood films.

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.

41.07 Perform techniques of hematology related to hemoglobin tests.

41.08 Understand the use of and importance of red blood cell indices.

41.09 Discuss basic techniques of hematology related to normal and abnormal physiology.

42.0 Demonstrate basic knowledge of and perform clinical laboratory point of care (POC) testing (Waived). -- The student will be able to:

CTE Standards and Benchmarks

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 Explain the purpose of performing lot to lot correlations.

42.03 Demonstrate knowledge of the frequency in which quality control procedures should be performed.

42.04 Understand 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:

43.01 Demonstrate and perform POC testing specific to microbiology, hematology, urinalysis, and clinical chemistry.

43.02 Perform instrument maintenance.

43.03 Demonstrate knowledge of quality control and calibrations involved within the 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:

44.01 Observe and participate as appropriate the 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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
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	
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	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

*** 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

This program is regulated by the Florida Board of Nursing.

Successful completion of this program from an approved school prepares the student for certification for employment as a Nursing Assistant, 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 all 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. Simulated labs are allowed to be used for no more than 20 hours of clinical instruction.

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, or have completed, a state approved nursing assistant training program may be employed by a licensed nursing facility 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 care plan.
- 38.0 Assist with restorative (rehabilitative) activities.

**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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
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.
28.02	Utilize verbal and written information to assist with the patient's plan of care.
28.03	Demonstrate use of the communication system.
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.
29.02	Describe the purpose of the chain of communication (i.e., to resolve patient or employee problems).
29.03	Follow policies and procedures affecting the health, safety, and well-being of patients.
29.04	Recognize and report signs of substance abuse.
29.05	Demonstrate the understanding of vulnerable population abuse and reporting procedures per agency.
29.06	Follow legal guidelines in documentation.
29.07	Demonstrate methods regarding risk management including prevention and quality of care.

CTE Standards and Benchmarks

29.08	Exhibit behavior supporting and promoting patients' and/or residents' rights.
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	Implement appropriate regulatory and accrediting agency patient safety guidelines.
30.02	Maintain safe patient units, equipment, and a comfortable environment.
30.03	Maintain service areas on the units including supplies and equipment.
30.04	Observe, report, and record changes in the patient's behavior as needed, including mental awareness.
30.05	Demonstrate adjustment of bed and side-rails according to facility policy.
30.06	Demonstrate and assist patient to dangle.
30.07	Demonstrate lifting, supporting and transferring patients from bed to chair, bed to bed, and bed to stretcher, including the use of the various assistive devices and equipment while utilizing proper body mechanics and patient safety measures
30.08	Demonstrate the proper use of a gait/transfer belt in both transfer and ambulation.
30.09	Assist patient in ambulation, including the use of crutch, cane, or walker.
30.10	Demonstrate the proper wheelchair safety techniques and assist patient as needed with use.
30.11	Apply supportive devices as directed (e.g., footboard, over-bed cradle, alternating pressure mattress).
30.12	Assist patient with care and use of prosthetic/orthotic devices.
30.13	Describe emergency procedures utilized in the clinical area(s) and the role of the nursing assistant in these procedures.
31.0	Provide personal patient care. - The student will be able to:
31.01	Perform bed bath; observe and report changes in a patient including skin and level of consciousness.
31.02	Assist with shower or tub bath, including the use of specialty tubs or prepackaged disposable-bagged bath.

CTE Standards and Benchmarks

31.03	Administer back rub with bath and as needed.
31.04	Assist patient with hair care utilizing sink, tub, shower, bed or shower cap.
31.05	Demonstrate the use of a safety and/or electric razor to shave the patient.
31.06	Demonstrate how to groom patient, including hair, skin, foot, hand and nail care.
31.07	Assist with and/or administer oral hygiene including denture care.
31.08	Assist patient to dress.
31.09	Assist patient with toileting using various types of restorative and rehabilitative equipment.
31.10	Assist patient with use of bedpan (standard and fracture)
31.11	Assist with bowel and bladder training.
31.12	Assist and/ or provide perineal care.
31.13	Empty, measure and record urinary output and/or drainage.
31.14	Demonstrate application and use of a leg bag, leg strap and dignity bag.
31.15	Monitor and assist with the drainage of urostomy bags and colostomy bags.
31.16	Assist patient with both donning and doffing prosthesis and brace.
31.17	Assist patient with meals.
31.18	Describe the relationships of body systems when providing patient care.
31.19	Recognize abnormal signs and symptoms of common diseases and conditions when providing patient care.
32.0	Perform patient care procedures. - The student will be able to:
32.01	Demonstrate ability to accurately measure, record and report vital signs.
32.02	Assist with the admission of a patient and/or resident.
32.03	Assist with the admission, transfer, and discharge of a patient and/or resident.
32.04	Maintain patient-belongings list.

CTE Standards and Benchmarks

32.05 Make unoccupied/occupied bed.

32.06 Provide passive range-of-motion exercises.

32.07 Apply anti-embolic hose and sequential compression devices.

32.08 Understand and demonstrate proper collection of routine, timed urine and clean catch urine specimens.

32.09 Record fluid intake and output (I&O).

32.10 Observe, record, and report patient's emesis.

32.11 Monitor and provide urinary catheter care and drainage systems.

32.12 Assist with ostomy care including emptying or changing ostomy bags that do not adhere to the skin.

32.13 Collect stool specimen.

32.14 Assist with the collection of a sputum specimen.

32.15 Assist the nurse with care of the patient with complex medical needs.

32.16 Assist patient to apply binders.

32.17 Care for patient in skin and skeletal traction.

32.18 Assist with pre-operative and post-operative patient care.

32.19 Reinforce dressings under the supervision of the RN/LPN.

32.20 Obtain and record an apical pulse.

32.21 Provide cast care and/or pin care.

32.22 Provide care for eyeglasses, artificial eyes, and contact lens.

33.0 Apply principles of nutrition. - The student will be able to:

33.01 Identify nutrients and food groups.

33.02 Develop a basic food plan.

33.03 Describe special diets.

CTE Standards and Benchmarks

33.04 Check patient's diet tray for accuracy.

33.05 Monitor and document Nutritional Intake.

33.06 Identify and implement regional, cultural and religious food guidelines/preferences.

33.07 Demonstrate knowledge of the need for thickened liquids and fluid consistency.

33.08 Identify methods of maintaining fluid balance including encouraging and restricting fluids.

34.0 Provide care for geriatric patients. - The student will be able to:

34.01 Identify and assist with methods and procedures to prevent pressure ulcers.

34.02 Identify and assist with methods to prevent falls in the elderly.

34.03 Identify and assist with safety principles as related to the elderly.

34.04 Describe general characteristics, particular needs, and age related changes of the elderly.

34.05 Identify attitudes and living habits that promote positive mental and physical health for the elderly.

34.06 Distinguish between fact and fallacy about the aging process.

34.07 Apply reality orientation techniques and validation therapy unless it is contraindicated by the patient diagnosis.

34.08 Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimers.

34.09 Provide and involve patients in diversional activities.

34.10 Identify common alterations in elderly patient behavior.

34.11 Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).

34.12 Demonstrate awareness of common behaviors in drug use and abuse in the elderly.

34.13 Report concerns to the nurse and appropriate authorities related to drug use and abuse in the elderly patient.

34.14 Identify the need for community resources and services available to the elderly and their caregiver.

34.15 Identify components of the grief process.

34.16 Demonstrate an understanding of end of life care, hospice and palliative care.

CTE Standards and Benchmarks

35.0 Apply the principles of infection control specific to nursing assisting. - The student will be able to:

35.01 Discuss transmission-based precautions.

35.02 Identify the chain of infection.

35.03 Provide care for patients with infectious diseases applying the principles of "Standard Precautions" utilized with all patients as well as special procedures required.

35.04 Apply the proper use of personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.

35.05 Follow isolation procedure with food tray, PPE, and other supplies/equipment.

35.06 Collect specimen from patient in isolation.

36.0 Provide biological, psychological, and social support. - The student will be able to:

36.01 Discuss family roles and their significance to health.

36.02 Respond to patient and family emotional needs.

37.0 Perform supervised organizational functions, following the patient care plan. – The student will be able to:

37.01 Organize and prioritize patient-care assignments.

37.02 Complete assignments accurately and in a timely manner.

38.0 Assist with restorative (rehabilitative) activities. - The student will be able to:

38.01 List the purposes of restorative (rehabilitation) program.

38.02 Assist patient with specified restorative (rehabilitation) needs.

38.03 Assist patients/residents to reach the optimum level of independence.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	4 credits
Teacher Certification	Refer to the <u>Program Structure</u> section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2081 Opticians, Dispensing 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 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 totaling four credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) 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.

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	SOC Code	Level	Graduation Requirement
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	
8417231	Vision Care Assisting 3	TEC OPTICS 7G	1 credit	29-2081	3	
8417232	Vision Care Assisting 4		1 credit	29-2081	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
28.0	Demonstrate knowledge of the visual system. - The students will be able to:
28.01	Identify the anatomy of the eye.
28.02	Describe the physiology of each part of the eye.
28.03	Describe the visual pathway.
28.04	Define refractive errors.
28.05	Explain the most common conditions of the eye.
29.0	Gather patient history and all relevant data in preparation for a complete eye exam. - 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.
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.

CTE Standards and Benchmarks

30.02	Accurately screen and record patient visual acuity.
30.03	Accurately evaluate and record. 30.3.01 Dominant eye and hand. 30.3.02 Cover test for muscular imbalance. 30.3.03 Saccadic for erratic eye movements. 30.3.04 Near point of convergence. 30.3.05 Pursuits, rotations and versions.
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.
31.03	Organize office procedures from a management perspective. 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.
32.02	Distinguish lens criteria for myopic, hyperopic, astigmatic and presbyopic correction.
32.03	Identify the different designs of multifocal lenses to fit the patient's needs.
32.04	Calculate focal lengths from dipotric values.
32.05	Measure vertex distance and compensate for contact lens use.
32.06	Accurately measure a patient's needs with the use of a phoropter.
32.07	Define prism imbalance, vertical imbalance and full imbalance.

CTE Standards and Benchmarks

32.08 Identify the effects of optical prism on lenses.

32.09 Describe the effects of types of tint on the eye.

32.010 Estimate the best transmission value related to light.

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.

33.02 Compare features with large, long and small nasal attributes.

33.03 Contrast hair and skin tone.

33.04 Select a frame such that the horizontal and vertical fit the patient's needs.

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.

**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.

CTE Standards and Benchmarks	
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.
34.03	Demonstrate pupillary distance measurement.
34.04	Demonstrate frame selection considering customer and frame characteristics.
34.05	Select correct frame and bridge size.
34.06	Verify prescription information.
34.07	Perform frame adjustment and alignment.
34.08	Perform frame repairs.
34.09	Identify occupational eyewear and special purpose frames.
35.0	Demonstrate and perform basic skills relating to lenses--The students will be able to:
35.01	Use a manual lensometer.
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.

CTE Standards and Benchmarks

35.04	Duplicate a pair of prescription eyeglasses.
35.05	Calculate lens size.
35.06	Calculate decentration.
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.
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.
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.

CTE Standards and Benchmarks

37.08 Describe types and care systems for contact lenses.

37.09 Demonstrate insertion and removal techniques of contact lenses.

37.010 Use keratometer.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

Special Notes

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	4 credits
Teacher Certification	Refer to the <u>Program Structure</u> section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	43-6013 Medical Secretaries 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 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 totaling four credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) 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.

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	SOC Code	Level	Graduation Requirement
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	
8417281	Health Unit Coordinator 1	REG NURSE 7 G MED RECTEC 7G PRAC NURSE @7 %7%G (Must be a Registered Nurse)	1 credit	43-6013	2	
8417282	Health Unit Coordinator 2		1 credit	43-6013	2	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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
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.

CTE Standards and Benchmarks	
28.0	Use oral and written communication skills in creating, expressing, and interpreting information and ideas. -- The student will be able to:
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.
30.02	Spell, pronounce and define medical terms, as related to health unit coordinator.
30.03	Relate medical terminology to the body systems.
30.04	Identify and define standard abbreviations and medical symbols.
30.05	Identify apothecary and metric systems.
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.
31.03	Maintain a supply of assembled medical/surgical admission packets when using paper charts or standard forms.
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:
32.01	Demonstrate knowledge of common software applications relevant to the role of the health unit coordinator.
32.02	Prepare, label, and add forms to chart.
32.03	Record non-clinical admission data on unit records.
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).
32.08	Conduct “downtime” procedure when electronic medical record program is unavailable due to scheduled downtime or unexpected downtime.
33.0	Perform patient admission, transfer, and discharge procedures. – The student will be able to:
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. – The student will be able to:
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
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.

CTE Standards and Benchmarks	
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.
36.02	Prioritize orders for transcription.
36.03	Prepare and route requisitions manually or via computer.
36.04	Arrange for ordered consultations.
36.05	Schedule patients' treatments or therapy with other hospital departments.
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.
37.09	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.
37.10	Discuss the importance of sending total parenteral nutrition (TPN) orders to the pharmacy in a timely manner via fax, pneumatic, or dumb waiter system.
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 required patient information needed 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 as a member of a professional organization such as the National Association of Health Unit Coordinators.
39.02	List five benefits of becoming a certified HUC.
39.03	List three positions in which the HUC may be cross-trained.

39.04 Compose written communication including emails using correct spelling, grammar, formatting and confidentiality.

39.05 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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	7 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 and UPS 800 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 totaling seven credits.

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	SOC Code	Level	Graduation Requirement
8418210	Pharmacy Technician 1	PHARMACY 7 G	1 credit	31-9099	3	
8418220	Pharmacy Technician 2		1 credit	29-2052	3	
8418230	Pharmacy Technician 3		1 credit	29-2052	3	
8418240	Pharmacy Technician 4		1 credit	29-2052	3	
8418250	Pharmacy Technician 5		1 credit	29-2052	3	
8418260	Pharmacy Technician 6		1 credit	29-2052	3	
8418270	Pharmacy Technician 7		1 credit	29-2052	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

Regulated Programs

This program is regulated by the Department of Health; Florida Board of Pharmacy.

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 in various pharmacy settings.
- 15.0 Perform clerical duties as related to Pharmacy Practice.
- 16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification.
- 17.0 Demonstrate knowledge of inventory management.
- 18.0 Initiate measurement and calculating techniques as it relates to United States Pharmacopeia (USP) 795 (non-sterile) compounding in pharmacy practice.
- 19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to human physiology.
- 20.0 Prepare and deliver medications.
- 21.0 Repackage unit dose medications.
- 22.0 Prepare United States Pharmacopeia (USP) 797 and USP 800 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 on in this program.

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.

CTE Standards and Benchmarks	
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 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.

CTE Standards and Benchmarks

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”.

CTE Standards and Benchmarks

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 MyPlate food guide.
04.09	Recognize the steps in the grief process.
05.0	Recognize and practice safety and security procedures. – The student will be able to:

CTE Standards and Benchmarks

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 Commissions patient safety goals
06.0	Recognize and respond to emergency situations. – The student will be able to:
06.01	Monitor and record 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.

CTE Standards and Benchmarks

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 or 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.

CTE Standards and Benchmarks

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.
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 to include student membership opportunities.
12.05	Identify the current trends and perspectives in the pharmacy practice.
12.06	Identify how team building can facilitate change within the pharmacy working environment.
12.07	Understand the importance of good interpersonal skills/soft skills in various pharmacy settings.
12.08	Demonstrate ethical conduct in job-related activities.

CTE Standards and Benchmarks

12.09 Identify State of Florida requirements for obtaining and maintaining pharmacy technician registration as well as continuing education requirements for renewal.

12.10 Explore the importance of national certification and the continuing education requirements for renewal.

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.

13.03 Identify safety strategies used to prevent medication errors due to pharmaceutical abbreviations and terminology.

**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.

CTE Standards and Benchmarks	
14.0	Identify medical and legal considerations in various pharmacy setting. -- The student will be able to:
14.01	Articulate the significance of current national and Florida law and administrative rules as they relate to the scope of practice for the pharmacy technician.
14.02	Convey an understanding of patient counseling requirements pertaining to OBRA-90 versus MTM (Medication Therapy Management).
14.03	Convey an understanding of medical legal concepts as they relate to the scope of practice for the pharmacy technician.
14.04	Explain the legal requirements for accurate pharmacy documentation and recordkeeping.
14.05	Demonstrate an understanding of HIPAA in pharmacy practice pertaining to the ethical and legal considerations.
14.06	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy practice.
14.07	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
14.08	Differentiate between controlled substance schedules (CI-CV) and their applicable regulations.
14.09	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials, the utilization of safety data sheets, and hazardous communication symbols.
14.10	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
14.11	Understand and explain the legal requirements for final check by the pharmacist
14.12	Classify activities that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists.
14.13	Explain the importance of information technology (IT) and its current use in various pharmacy settings.

15.0	Perform clerical duties as related to Pharmacy Practice. -- The student will be able to:
15.01	Demonstrate retail pharmacy dispensing processes.
15.02	Identify potential errors that may result in Quality Related Events.
15.03	Utilize pharmacy software in processing pharmacy prescription data.
15.04	Identify and discuss applications of E-Prescribing and facsimile.
15.05	Utilize and apply interactive communication skills while gathering accurate information from patients and from other healthcare professionals
15.06	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements
15.07	Create, complete and maintain patient profiles including third party billing information.
15.08	Understand the processes of third party billing, resolving rejections, and obtaining prior authorizations.
15.09	Demonstrate professional telephone communication skills within the scope of practice for the pharmacy technician.
15.10	Demonstrate the knowledge of systems used in maintaining pharmacy records.
15.11	Summarize, evaluate, and describe the role of the technician in quality assurance activities as related to various pharmacy practices.
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification. -- 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	Utilize pharmacy reference manuals and web sites.
16.04	Apply knowledge of trade names, and generic name equivalents.

**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.

CTE Standards and Benchmarks	
17.0	Demonstrate knowledge of inventory management. -- The student will be able to:
17.01	Convey an understanding of industry standards in purchasing pharmaceutical supplies, including the Florida Pedigree Law.
17.02	Maintain controlled substance inventory.
17.03	Apply knowledge of pharmacy business math to prescription pricing systems.
17.04	Maintain stock inventory, communicate shortages, and seek solutions to maintain continuity of patient care.
17.05	Create 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 Investigational Drugs, Risk Evaluation and Mitigation Strategies (REMS), off label indications, and emerging drug therapy.
17.08	Convey an understanding of the inventory control process implemented by Title II of the Drug Quality and Security Act.
18.0	Initiate measurement and calculating techniques as it relates to United States Pharmacopeia (USP) 795 (non-sterile) 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	Identify common pharmaceutical weighing equipment.

18.05	Identify common pharmaceutical volume measurement equipment.
18.06	Demonstrate 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 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.

CTE Standards and Benchmarks	
19.0	Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to the human physiology. -- The student will be able to:
19.01	Describe electrolyte balances and imbalances.
19.02	Relate the general sources, classes, indications, mechanisms of actions, routes of administration, side effects, and various types of drug interactions.
19.03	Demonstrate an understanding of common adult doses of medications, durations of common therapies, and respective contraindications, including the Beers Criteria.
19.04	Identify potential interactions that require a pharmacist's interventions pertaining to food/alcohol, herbal, OTC, and/or prescription medications.

**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.

CTE Standards and Benchmarks	
20.0	Prepare and deliver medications. -- The student will be able to:
20.01	Read and prepare medication orders correctly.
20.02	Demonstrate institutional pharmacy dispensing processes.
20.03	Compare all new orders with medications listed on profiles while noting any changes.
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	Understand how to correctly fill and deliver medication cassettes.
20.07	Collect data from medication administration record.
20.08	Demonstrate use of automated medication dispensing equipment.

21.0	Repackage unit dose medications. -- The student will be able to:
21.01	Locate correct stock container.
21.02	Operate unit dose packaging equipment.
21.03	Measure, count, and place individual dose in appropriate containers.
21.04	Understand precautions used when packaging unit dose hazardous drugs.
21.05	Record repackaged medication data correctly.
21.06	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to repackaging unit dose medication.

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.

CTE Standards and Benchmarks	
22.0	Prepare United States Pharmacopeia (USP) 797 and USP 800 sterile products. -- The student will be able to:
22.01	Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
22.02	Convey an understanding of United States Pharmacopeia (USP) 800 regulations.
22.03	Compare medication order with label on vial and check expiration date of product.
22.04	Calculate drug dosage for parenteral use.
22.05	Understand common institutional drug names, dosages, and incompatibilities.
22.06	Reconstitute parenteral medications.
22.07	Demonstrate aseptic technique to withdraw medication from stock vial, measure correct quantity as instructed, select and insert it into IV solution without error.

22.08	Demonstrate aseptic technique to withdraw medication from an ampule using filter needle/straw.
22.09	Prepare parenteral solutions using proper aseptic technique.
22.10	Understand the preparation of Total Parenteral Nutrition (TPN) solutions.
22.11	Understand the preparation of chemotherapeutic agents using proper safety techniques.
22.12	Understand the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
22.13	Place label on IV solution container and record appropriately.
22.14	Perform quality control check of completed product.
22.15	Convey an understanding of the proper storage and disposal requirements of reconstituted and non-reconstituted IV solutions.
22.16	Convey an understanding of the proper storage and disposal of hazardous Drugs.
22.17	Summarize, evaluate and describe the role of the technician in quality assurance activities as related to the preparation of sterile products.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	9 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling nine credits.

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	SOC Code	Level	Graduation Requirement
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	
8418420	Practical Nursing Foundations 1B		1 credit	31-1014	3	
8418430	Practical Nursing Foundations 2A	REG NURSE 7 G PRAC NURSE @7 (Must be a Registered Nurse)	1 credit	29-2061	3	
8418440	Practical Nursing Foundations 2B		1 credit	29-2061	3	
8418450	Medical Surgical Nursing 1A		1 credit	29-2061	3	
8418460	Medical Surgical Nursing 1B		1 credit	29-2061	3	
8418470	Medical Surgical Nursing 2A		1 credit	29-2061	3	
8418480	Medical Surgical Nursing 2B		1 credit	29-2061	3	
8418490	Comprehensive Nursing and Transitional Skills		1 credit	29-2061	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

*** 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.**

Regulated Programs

This program is regulated by the Florida Board of Nursing.

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 and sterile 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 in relation to health and disease.
- 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.

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 procedures, HIV/AIDS, computer literacy, basic communication skills, legal & ethical nursing concepts, principles of infection control and aseptic technique.

Practical Nursing Foundations 1A	
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.
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.

Practical Nursing Foundations 1A

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, active shooter, and evacuations procedures.

02.12 Discuss The Joint commission patient safety goals (www.jointcommission.org) 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.

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.

Practical Nursing Foundations 1A

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.

04.03 Identify methods of communication to access and distribute data such as fax, e-mail and internet as related to HIPAA.

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.

05.02 Respond to verbal and non-verbal cues.

05.03 Use approved medical terminology and abbreviations.

05.04 Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.

05.05 Receive and give oral report using safe handoff of patient's status.

05.06 Report and record objective and subjective pertinent observations.

05.07 Maintain current documentation.

05.08 Document changes in patient behavior and mental awareness in a timely manner.

05.09 Obtain specified data from patient and family.

05.10 Define and explain the steps in the nursing process and the role of the licensed practical nurse in that process.

05.11 Utilize nursing principles to assist with the patient's plan of care.

06.0 Demonstrate legal and ethical responsibilities specific to the nursing profession. – The student will be able to:

06.01 Explain the "Patient's Bill of Rights".

06.02 Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).

06.03 Describe advance directives.

06.04 Describe informed consent.

06.05 Recognize and report all forms of abuse to include domestic violence (physical & verbal), neglect, and human trafficking.

Practical Nursing Foundations 1A

06.06 Identify the components of the Nurse Practice Act.

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.

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:

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.

07.02 Perform and promote effective hand hygiene.

07.03 Set up isolation unit using proper personal protective equipment (PPE) for all types of isolation including donning and removing PPE appropriately.

07.04 Follow isolation procedure with food tray, garments, and other materials.

07.05 Collect specimen from patient in isolation.

07.06 Identify common hospital acquired infections and their prevention and treatment.

07.07 Identify emergent communicable diseases and their prevention and treatment.

07.08 Apply interventions to break each chain of infection.

07.09 Discuss immunity and the role of immunizations.

07.10 Discuss nursing responsibilities related to biological exposures.

08.0 Perform aseptic and sterile techniques. – The student will be able to:

08.01 Apply principles of medical and surgical asepsis.

08.02 Apply and remove sterile gloves.

08.03 Apply sterile dressing.

Practical Nursing Foundations 1A

08.04 Open sterile equipment and supplies.

08.05 Maintain sterile field.

08.06 Clean and disinfect equipment.

08.07 Apply and remove personal protective equipment (PPE).

**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.

<u>Practical Nursing Foundations 1B</u>	
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, document, and report vital signs.
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.
09.03	Provide basic nursing care.
09.04	Perform patient hygiene care.
09.05	Assist patient with activities of Daily Living (ADL) including:
09.05.01	Dressing
09.05.02	Meals
09.05.03	Bowel and bladder training
09.05.04	Perineal/catheter 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	Demonstrate care for eyeglasses, prosthetic eyes, and contact lens.
10.0	Provide patient-centered care for the geriatric population. - The student will be able to:

Practical Nursing Foundations 1B

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|-------|--|
| 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. |
| 10.02 | Identify barriers for older adults in receiving, understanding, and giving of information. |
| 10.03 | Use valid and reliable assessment performed by registered nurse/LPN to guide nursing practice for older adults. |
| 10.04 | Recognize safe living environments as it relates to functional, physical, cognitive, psychological, and social needs of older adults. |
| 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. |
| 10.06 | Identify actual or potential mistreatment (physical, mental or financial abuse, and/or self-neglect) in older adults and report 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). |
| 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, skilled nursing facility) 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. . |
| 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. |
| 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 (Alzheimers or |

Practical Nursing Foundations 1B

Dementia).

10.21 Recognize and respond appropriately to symptoms of common diseases, including dementia, depression/suicide and Alzheimers.

10.22 Provide care for patients with special needs (e.g., impaired hearing, impaired vision, immobility, impaired body functions, cognitively impaired (dementia)).

10.23 Demonstrate awareness of common behaviors in substance use and abuse in the elderly.

10.24 Report concerns to the nurse related to substance use and abuse in the elderly patient.

10.25 Identify components of the grief process as it relates the geriatric patient.

10.26 Identify factors predisposing aging adults for suicide.

11.0 Assist with restorative (rehabilitative) activities. – The student will be able to:

11.01 List the purposes of restorative (rehabilitation) program.

11.02 Assist patient with specified restorative (rehabilitation) needs.

11.03 Assist patients/residents to reach the optimum level of independence.

12.0 Demonstrate organizational functions following the patient plan of care. – The student will be able to:

12.01 Organize patient-care assignments.

12.02 Complete assignments accurately and in a timely manner.

13.0 Describe the structure and function of the human body in relation to health and disease. – The student will be able to:

13.01 Describe the relationships of body systems to health and disease as it relates to 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.

Practical Nursing Foundations 1B

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 (www.choosemyplate.gov).

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 encouraging 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.

**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.

Practical Nursing Foundations 2A	
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 as appropriate.
16.06	Perform clean and sterile dressing changing procedures.
16.07	Insert straight/indwelling catheter.

Practical Nursing Foundations 2A

- | | |
|-------|--|
| 16.08 | Obtain specimen from patient with indwelling catheter. |
| 16.09 | Remove indwelling catheter. |
| 16.10 | Demonstrate how to assist with physical examination. |
| 16.11 | Assist patient with diagnostic procedures. |
| 16.12 | Irrigate wound. |
| 16.13 | Apply cervical collar. |
| 16.14 | Apply orthopedic devices including binders, braces and splints. |
| 16.15 | Apply anti-embolic hose and sequential compression devices. |
| 16.16 | Care for patient in skin, skeletal traction and external fixators. |
| 16.17 | Clean tong/pin site. |
| 16.18 | Describe and demonstrate how to monitor chest drainage system. |
| 16.19 | Perform naso-oral suction. |
| 16.20 | Perform tracheostomy care. |
| 16.21 | Demonstrate how to instruct patient in breathing exercises. |
| 16.22 | Set up vaporizer/humidifier. |
| 16.23 | Administer and maintain oxygen. |
| 16.24 | Collect timed urine specimen. |
| 16.25 | Collect clean-catch (midstream-voided) urine specimen. |
| 16.26 | Test urine using point of care testing procedures. |
| 16.27 | Irrigate urinary catheter. |
| 16.28 | Demonstrate how to maintain continuous urinary bladder irrigation. |
| 16.29 | Change ostomy appliance. |

Practical Nursing Foundations 2A

16.30 Connect nasogastric tube to suction machine.

16.31 Remove nasogastric tube.

16.32 Administer enteral feeding.

16.33 Administer enema.

16.34 Test stool for occult blood.

16.35 Irrigate nasogastric tube.

16.36 Irrigate oral cavity.

16.37 Irrigate colostomy.

16.38 Demonstrate how to maintain enteral feeding tubes.

16.39 Perform neurological checks.

16.40 Logroll patient.

16.41 Irrigate ear.

16.42 Irrigate eye.

16.43 Obtain and test a drop of blood for glucose monitoring.

16.44 Perform IV calculations.

16.45 Observe intravenous infusion and report signs of adverse reactions.

16.46 Inspect insertion site and remove IV needle or catheter from peripheral veins.

16.47 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.

Practical Nursing Foundations 2A

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 eardrops.
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 safe self-administration of medications; reinforce teaching by the nurse 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:

Practical Nursing Foundations 2A

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- and psychosocial components of health.
18.14	Utilize verbal de-escalation techniques for agitated patients.
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.

Practical Nursing Foundations 2A

19.08 Provide education in warning signs and risk factors for mental health issues.

19.09 Apply cultural diversity related to spirituality. Acknowledge cultural diversity and/or spirituality when providing patient care.

19.10 Identify education level.

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 information on community resources for prenatal care.

20.03 Provide current immunization practices.

20.04 Discuss healthy nutrition options and resources.

20.05 Provide information on abuse and neglect in relationships.

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 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.

Medical Surgical Nursing 1A	
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 to determine 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.

Medical Surgical Nursing 1A

23.03 Prepare patient for operating room.

23.04 Provide post-operative care.

23.05 Reinforce post-operative discharge teaching provided by the nurse.

**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.

Medical Surgical Nursing 2A	
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 to determine 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

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, and 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

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	Identify 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.

Comprehensive Nursing and Transitional Skills

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.

Comprehensive Nursing and Transitional Skills

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 including multi-state licensure.

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.

Comprehensive Nursing and Transitional Skills

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.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	3 credits
Teacher Certification	Refer to the <u>Program Structure</u> section.
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2031 Cardiovascular Technologists and 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 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 totaling three credits. The two credit Health Science Core (Health Science Anatomy & Physiology 8417100 and Health Science Foundations 8417110) is required as a prerequisite for all programs. Secondary students completing the two required courses will not have to repeat the core in postsecondary.

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	SOC Code	Level	Graduation Requirement
8417100	Health Science Anatomy and Physiology	ANY HEALTH OCCUP G	1 credit	31-9099	3	EQ
8417110	Health Science Foundations	(See DOE approved list)	1 credit	31-9099	3	
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 PRAC NURSE @7 %7%G (Must be a Registered Nurse)	1 credit	29-2031	3	

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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). 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 courses 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.

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.

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.

CTE Standards and Benchmarks	
28.0	Describe the cardiovascular system. -- The student will be able to:
28.01	Locate the heart and surrounding structures.
28.02	Diagram and label the parts of the heart and list the functions of each labeled part.
28.03	Trace the flow of blood through the cardiopulmonary system.
28.04	Identify and describe the electrical conduction system.
28.05	Describe the function of the autonomic nervous system.
28.06	Describe signs and symptoms of a patient demonstrating poor perfusion or low cardiac output and state the importance of rapid reporting.
29.0	Identify legal and ethical responsibilities of an EKG technician. -- The student will be able to:
29.01	Recognize and practice legal and ethical responsibilities as they relate to an EKG aide.
29.02	Maintain a safe and efficient work environment.
29.03	Maintain EKG equipment so it will be safe and accurate.
29.04	Implement appropriate Joint Commission patient safety goals and adhere to HIPAA regulations regarding Protected Health Information (PHI).
30.0	Demonstrate knowledge of, apply and use medical instrumentation modalities. -- The student will be able to:

CTE Standards and Benchmarks

30.01	Calibrate and maintain EKG equipment in the work environment.
30.02	Identify three types of lead systems standard/limb, augmented, and precordial/chest).
30.03	State Einthoven's triangle.
30.04	Demonstrate proper lead placement including lead placement with special considerations for various patients with special needs to include pediatric, amputee, and posterior and right sided EKGs.
30.05	Identify artifacts and mechanical problems.
30.06	Perform a 3, 5, and 12 lead EKG.
30.07	Recognize normal sinus rhythm.
30.08	Report dysrhythmias that are not normal sinus rhythm.
30.09	Recognize signs and symptoms of cardiopulmonary compromise on the EKG tracing and understand the importance of rapid reporting.
30.10	Verify accuracy of lead placement on the EKG.
30.11	Verify setting on the EKG machine such as paper speed, sensitivity (gain), and Hertz (Hz) prior to use.
31.0	Perform patient care techniques in the health care facility. -- The student will be able to:
31.01	Describe the physical and mental preparation of the patient for EKG testing.
31.02	Identify patient and verify the requisition order.
31.03	Prepare patient for cardiovascular diagnostic testing.
31.04	Obtain patient's vitals (temperature, pulse, respirations, blood pressure, and pulse oximetry) in preparation for cardiovascular diagnostic testing and report abnormalities.
31.05	State precautions required when performing cardiovascular diagnostic procedures.
31.06	Convey the importance of maintaining a safe patient environment and evaluate potential hazards in the work environment.
32.0	Recognize normal and abnormal monitoring and testing results. -- The student will be able to:
32.01	Inspect and measure the various waveforms of a cardiac cycle including, segments, complexes, heart rates and intervals.
32.02	Identify electrical axis.
32.03	Recognize pacemaker spikes on the EKG and state the purpose of pacemakers.

CTE Standards and Benchmarks

32.04	Recognize normal and deviations from normal sinus rhythms.
32.05	Recognize all atrial rhythms.
32.06	Recognize all junctional rhythms.
32.07	Recognize all ventricular rhythms.
32.08	Recognize all types of heart blocks.
32.09	Recognize normal and deviations from single chamber and dual chamber pacemakers as well as all implantable cardioverter defibrillators.
32.10	Identify myocardial ischemia, injury, and infarction on EKG tracing.
32.11	Recognize atrial and ventricular hypertrophies.
32.12	Recognize ectopic beats and any rare phenomena.
32.13	Recognize normal and deviations from normal 12 lead EKG results.
32.14	Describe potential patient responses to all dysrhythmias and other EKG abnormalities.
32.15	Recognize and respond promptly to life threatening dysrhythmias during continuous monitoring such as telemetry.
33.0	Describe cardiovascular drugs, their actions, use, and adverse effects. -- The student will be able to:
33.01	Describe the mechanisms by which common cardiovascular drugs work including actions and adverse effects.
33.02	Differentiate between normal and abnormal EKG changes potentially 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 and provide patient education.
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 as per acceptable facility guideline. .

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. 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
Standard Length	4 credits
Teacher Certification	Refer to the <u>Program Structure</u> 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 totaling four credits.

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	1 credit	3	EQ
8708120	Human Body Systems	REG NURSE 7 G	1 credit	3	EQ
8708130	Medical Interventions	MED PROF 7 G	1 credit	3	EQ
8708140	Biomedical Innovation	PARAMEDIC @7 7G	1 credit	3	
		LAB TECH @7 7G			
		PLTW HEALTH 7G			

(Graduation Requirement Abbreviations- EQ= Equally Rigorous Science, PA= Practical Arts, EC= Economics)

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 medical and 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 on public health.
- 06.0 Understand and describe the importance of the cardiovascular system by examining the structure and function of the heart.
- 07.0 Understand and describe the importance of blood in relation to the cardiovascular system and the human body.
- 08.0 Demonstrate an understanding of how essential nutrients contribute 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 role 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 mutations.
- 15.0 Demonstrate an understanding of the function of cholesterol in the body and its role in cardiovascular 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 anatomical and physiological commonalities in the human body.
- 19.0 Analyze the individual differences in body systems in tissues and cells.
- 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.
- 24.0 Investigate how the human body responds to external stimuli.
- 25.0 Describe the role food plays in the conversion and use of energy in the body.
- 26.0 Describe the role of oxygen in cellular respiration and macromolecule metabolism.
- 27.0 Describe the role of water in maintain homeostasis.
- 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 acts as a transport for 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 structure and function of the integumentary system.
- 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 Analyze how various external factors require body systems to 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 the pathology of 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 and genetic technology and discuss the future of medical interventions.
- 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 the physical, mental, and emotional effects of cancer.
- 45.0 Explore future medical interventions for cancer.
- 46.0 Explore the medical implications of proteins produced and purified in a laboratory setting.
- 47.0 Investigate the epidemiology and therapeutic interventions of kidney failure.
- 48.0 Explore the process, policies and procedures involved in 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.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the nature of science and how to correctly use appropriate medical and scientific equipment. – The student will be able to:
01.01	Develop a theory through evidence-based research and find a conclusion to a problem utilizing the scientific method.
01.02	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
01.03	Practice and demonstrate how to properly and safely use a microscope.
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
02.02	Explain common practices that could result in malpractice, liability and/or negligence.
02.03	Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).

CTE Standards and Benchmarks

02.04	Describe the purpose of Informed Consent from the patient and provider perspective.
02.05	Differentiate between legal and ethical issues in healthcare.
02.06	Evaluate and justify decisions based on ethical reasoning.
02.07	Identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace.
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:
03.01	Identify the major body systems and their functions.
03.02	Demonstrate an understanding of how body systems work together to maintain homeostasis.
03.03	Identify and locate specific organs that comprise the major human body systems.
03.04	Describe the general structure and function of each of these organs.
03.05	Identify common diseases and conditions that can disrupt the functioning of cells, tissues and organs within the body.
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.
04.03	Analyze bloodstain patterns to determine the mechanism of death through experimental design.
04.04	Analyze evidence 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.
04.06	Discuss how the use of medical terminology and the involvement of many medical professionals are vital to the investigation process.
05.0	Explore various careers related to biomedical science and its impact on public health. –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	Compare and contrast the role of the medical examiner and the coroner.
05.03	Investigate and discuss a variety of biomedical sciences careers that relate to the prevention, diagnosis, and treatment of both cardiovascular and infectious disease.

CTE Standards and Benchmarks

06.0	Understand and describe the importance of the cardiovascular system by examining the structure and function of the heart. – The student will be able to:
06.01	Understand and discuss that the human heart is a four-chambered living pump that provides the force needed to transport blood, both oxygenated and de-oxygenated, throughout the body without mixing the two types of blood.
06.02	Identify and describe the gross structures and functions of the heart.
06.03	Understand how a heartbeat is caused by the contraction of cardiac muscle cells that result in the blood flow from the heart to the arteries and to the whole body.
06.04	Calculate heart rate as the number of beats per minute.
06.05	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.
06.06	Describe the flow of electricity through the heart and the result of this electrical pattern.
06.07	Indicate how heart rate, blood pressure and EKG can be used to measure a person's medical condition.
06.08	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.
06.09	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 cardiovascular system and the human body. – The student will be able to:
07.01	Explain that blood is a liquid connective tissue composed of erythrocytes, leukocytes and thrombocytes that are suspended in liquid plasma.
07.02	Compare and contrast the functions of erythrocytes, leukocytes, and thrombocytes.
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, waste, and nutrients.
08.0	Demonstrate an understanding of how essential nutrients contribute to the health of the human body. – The student will be able to:
08.01	Identify the different categories used in a food label and what they mean in relation of the nutrition of the body.
08.02	Compare and contrast the recommended daily values for food groups, minerals and vitamins.
08.03	Describe that food is made of macromolecules and can be classified as protein, fats, or carbohydrates, which in turn are made of atoms.
08.04	Describe the structure and function of atoms.
08.05	Describe how homeostasis depends upon many different chemical reactions and large organic molecules.
08.06	Describe the role of chemical bonding in chemical reactions and transfer of energy.

CTE Standards and Benchmarks

09.0	Describe how food provides nutrients for the body to help maintain homeostasis. – The student will be able to:
09.01	Describe the structure and function of macromolecules in relation to the breakdown of food and the human body.
09.02	Differentiate between the four classes of macromolecules in terms of their structure and function and build a model of each.
09.03	Explain the role of chemical indicators in identifying chemical compounds.
09.04	Describe different foods that contain each kind of nutrients.
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	Understand that there are two different types of feedback systems, positive and negative.
10.02	Summarize how insulin regulates the transfer of glucose into the body cells and its role as part of the feedback system.
10.03	Compare and contrast Type 1 & Type 2 Diabetes.
10.04	Explain the major causes, symptoms, complications effects and treatments of both Type 1 and Type 2 diabetes.
10.05	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.
10.06	Describe healthy behaviors and actions that could help prevent the onset of Type 2 diabetes.
10.07	Investigate and describe the roles of Biomedical Sciences professions related to the treatment and prevention of Diabetes.
11.0	Investigate the role of DNA and Chromosomes in the human body. – The student will be able to:
11.01	Describe the Structure and function of a chromosome.
11.02	Describe the structure and function of deoxyribonucleic acid (DNA).
11.03	Explain the relationship between chromosomes, DNA and Genes.
11.04	Explain the interactions between nucleotides using DNA models.
11.05	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.
11.06	Describe the importance of nucleotides in the process of creating protein molecules with the information from DNA.
11.07	Distinguish between the different levels of proteins and understand that a protein's shape can change depending on its environment.
11.08	Explain how the sequence of amino acids in a protein determines the protein's structure.

CTE Standards and Benchmarks

11.09	Demonstrate the appropriate laboratory methods to isolate DNA from plant and animal cells.
11.10	Explain how restriction enzymes cut DNA.
11.11	Describe how gel electrophoresis separates DNA fragments.
11.12	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:
12.01	Describe and identify the difference between the appearance of normal and sickle cell blood using a microscope.
12.02	Describe the function of hemoglobin found in erythrocytes.
12.03	Demonstrate how changes to the structure of a protein can change its ability to work properly.
12.04	List the major symptoms and complications of sickle cell disease.
12.05	Research the occurrence of sickle cell disease between different countries around the world and investigate the reasons for the differences in incidence rates.
12.06	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:
13.01	Describe that chromosomes each carry numerous genes that are passed along from parents to offspring through reproductive cells.
13.02	Identify and be able to use a karyotype to identify multiploidy and sex in an individual.
13.03	Compare and contrast between chromosomal and gene mutations.
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, such as b-globin protein and their associations with Sickle Cell Disease.
13.05	Describe the process of meiosis.
13.06	Explain how cell division results in the formation of haploid gametes.
13.07	Compare and contrast mitosis and meiosis and relate to the processes of sexual reproduction and their consequences for genetic variation.
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.
13.10	Explain how anemia and lack of energy in a cell are related.

CTE Standards and Benchmarks

13.11	Use appropriate research techniques to obtain information on the symptoms and complications of the sickle cell trait and disease.
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.
14.0	Examine how changes in chromosomes or genes can cause disease/chromosomal mutations. – The student will be able to:
14.01	Define, identify and analyze karyotypes to determine multiploidy and sex.
14.02	Explain how karyotypes are used to diagnose certain medical conditions.
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.
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.
15.0	Demonstrate an understanding of the function of cholesterol in the body and its role in cardiovascular disease. – The student will be able to:
15.01	Explain that there are different types of lipid molecules and that they have different physical properties and functions.
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.
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.
15.04	Describe how the measurement of these protein complexes affects a person's risk for cardiovascular disease.
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 cardiovascular disease.
16.0	Describe molecular biological techniques for diagnosing diseases, specifically hypercholesterolemia. – The student will be able to:
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.
16.02	Demonstrate using proper laboratory techniques how to separate DNA fragments by gel electrophoresis, including how to properly load a gel, how to use a micropipette, and how to set parameters using the power source.
16.03	Analyze the results of a gel electrophoresis to correctly diagnose the presence of the familial hypercholesterolemia mutation.
17.0	Demonstrate an understanding of bacteria as a cause for infectious diseases. – The student will be able to:
17.01	Identify the basic structures of a bacterial cell.

CTE Standards and Benchmarks

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| 17.02 | Describe the epidemiology of different types of bacteria and why some cause disease while some do not. |
| 17.03 | Classify bacteria by shape, metabolism and reaction to gram staining. |
| 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 chronic use of antibiotics can cause resistance in bacteria and what that means to human health. |
| 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. |

**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.

CTE Standards and Benchmarks	
18.0	Investigate the anatomical and physiological commonalities in the human body. -- The student will be able to:
18.01	List the major organs within each human body system and the functions of the different human body systems.
18.02	Describe how multiple body systems are interconnected.
18.03	Describe how the interconnections and interactions of multiple body systems are necessary for maintaining homeostasis.
18.04	Demonstrate the correct usage of directional terms and regional terms to identify locations of the human body.
18.05	Identify key directional terms on a model of the human body.
18.06	Apply knowledge of human body systems to indicate how disease can impact function in another system.
19.0	Analyze the individual differences in body systems in tissues and cells. – The student will be able to:
19.01	Describe the differences in the appearance of epithelial and connective tissues.
19.02	Explain the basic structure and function of the skeletal system.
19.03	Identify the muscles 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.
19.05	Use mathematical calculations to predict height from the length of a bone.
20.0	Investigate the significance of DNA in relation to individual identity. – The student will be able to:
20.01	Explain how restriction enzymes cut DNA.

CTE Standards and Benchmarks

20.02	Explain how gel electrophoresis separates DNA fragments by size.
20.03	Analyze gel electrophoresis results.
20.04	Define biometrics and through research create an argument related to ethical issues associated with it.
20.05	Describe the way in which characteristics such as fingerprints, facial features and retinal patterns can be used to establish identity.
20.06	Design a comprehensive security plan for a real-world situation using biometrics.
20.07	Understand the roles and responsibilities of a forensic anthropologist and a DNA analyst.
21.0	Investigate the role the brain plays in the communication system of the human body. –The student will be able to:
21.01	Describe the general structure and function of the central nervous system.
21.02	Interpret how a malfunction in the nervous system would impact the function of the human body.
21.03	Identify the regions of the brain responsible for specific actions, emotions, or functions of human body.
21.04	Differentiate the regions of the brain that are responsible for basic life functions.
22.0	Determine how electrical communication works in the body. – The student will be able to:
22.01	Explain the basics of how electrical signals are created and transmitted in the human body.
22.02	Explain the roles of ions in creating electrical impulses in the human body.
22.03	Explain how neurotransmitters help propagate electrical impulses.
22.04	Describe neuron structure and function.
22.04.01	Explain the ascending and descending pathways of the CNS.
22.05	Analyze how reflexes impact reaction time.
22.06	Demonstrate an understanding of how nervous system disorder impacts quality of life.
22.07	Research the roles and responsibilities of biomedical professionals who can improve the quality of life for those coping with nervous system dysfunction.
22.08	Using data acquisition software to investigate the relationship between reflexes and reaction time.
23.0	Determine how chemical communication works in the body. – The student will be able to:
23.01	Explain the basics of how hormones interact with target cells.
23.02	Explain the difference between endocrine and exocrine glands as well as protein/peptide and steroid hormones.
23.03	Using research, interpret the symptoms and physical characteristics of a patient to determine an endocrine system pathology.
23.04	Explain in general how hormones contribute to maintain homeostasis.
24.0	Investigate how the human body responds to external stimuli. – The student will be able to:
24.01	Describe the structures and function of the eye.
24.02	Describe how the eye and the brain work together to produce vision.
24.03	Explain and demonstrate visual perception, including visual acuity, depth perception, peripheral vision, color vision, and the interpretation of optical illusions.
24.04	Utilize a Snellen chart to determine an individual's vision acuity.
24.05	Explain how the lens of the eye utilizes light waves to produce a visual image and explain how to correct visual problems with corrective lenses.
24.06	Describe the roles and responsibilities of an optometrist, ophthalmologist, and optician.
25.0	Describe the role food plays in the conversion and use of energy in the body. – The student will be able to:
25.01	Describe the human body systems that absorb process and distribute oxygen, water, and food.

CTE Standards and Benchmarks

25.02	Describe the structure and function of organs in the human digestive system.
25.03	Explain how energy is stored and released in ATP through the process of hydrolysis and phosphorylation.
25.04	Assess overall health through analysis of calories consumed and calories expended in daily activities.
25.05	Explain the structure and function of, enzymes and co enzymes and how they all work together.
25.06	Explain the role of enzymes in maintaining homeostasis in the body.
25.07	Demonstrate an understanding of both lock and key models and induced fit models of enzyme function.
25.08	Interpret enzyme function in the digestive system through laboratory experiments.
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.
26.0	Describe the role of oxygen in cellular respiration and macromolecule metabolism. –The student will be able to:
26.01	Describe the structure and function of the human respiratory system.
26.02	Explain the process of gas exchange in the lungs and identify where in the lungs gas exchange occurs.
26.03	Explain that the blood is the primary transport for oxygen and carbon dioxide in the body.
26.04	Perform a spirometry test to determine an individual's tidal volume, inspiratory reserve volume, expiratory reserve volume, vital capacity, and total lung volume.
26.05	Analyze the differences of various medications used to treat respiratory dysfunction and describe the various pharmacological routes of administration for each.
26.05.01	Utilize pharmacological abbreviations to analyze prescriptions.
26.06	Explain the roles and responsibilities of a respiratory therapist.
27.0	Describe the role of water in maintaining homeostasis. – The student will be able to:
27.01	Describe the structure and function of the human urinary system.
27.02	Describe the structure and function of the kidney.
27.03	Describe and illustrate the movement of fluids and ions in and out of the various parts of the nephron.
27.04	Explain the role of ADH (anti-diuretic hormone) and Aldosterone on fluid and electrolyte balance in the body.
27.05	Compare and contrast the composition of blood and urine.
27.06	Build a model of the urinary system.
27.07	Analyze the results of a urinalysis test and apply the results to determine dysfunction of the urinary system.
27.08	Identify the components of a urinalysis test and determine when a urinalysis should be utilized.
28.0	Demonstrate an understanding of how joints directly contribute to the movement of the human body. – The student will be able to:
28.01	Describe the structure and function of a hinge joint, ball and socket joint, pivot joint, saddle joint, and gliding joint and be able to identify an example of each.
28.02	Describe the normal motion of various joints in the body using correct terminology.
28.03	Measure joint range of motion of various joints using a goniometer OR determine the normal range of motion for various joints in the body.
28.04	Compare the structure of a cow elbow to a human elbow.
28.05	Discuss differences in an individual's range of motion and the reason for these differences.
28.06	Discuss ways to improve joint flexibility such as stretching and other lifestyle modifications.
29.0	Demonstrate an understanding of how muscles directly contribute to the movement of the human body. – The student will be able to:

CTE Standards and Benchmarks

29.01	Describe the structure and function of the three types of muscle tissue.
29.02	Identify specific muscles of the body and understand how muscles are named.
29.03	Describe the steps of muscle contraction.
29.04	Explain the sliding filament mechanism of muscle contraction.
29.05	Explain the connection between nerves and muscle.
29.06	Interpret muscle function by examining structure and attachment to bone.
29.07	Build a model of a muscle group.
29.08	Explain why rigor mortis occurs using the concepts of muscle contraction.
29.09	Determine the role of calcium in muscle contraction.
30.0	Demonstrate an understanding of how blood flow acts as a transport for substances through the human body. – The student will be able to:
30.01	Explain the relationship between the heart and lungs and the path of blood flow through these organs.
30.02	Demonstrate how to take a pulse and explain the steps of how to take blood pressure.
30.03	Identify major arteries and veins and specify the body region each supplies.
30.04	Interpret ankle brachial index (ABI) to determine possible blood vessel blockages.
30.05	Understand the relationship between the amounts of blood pumped by the heart through analysis of cardiac output values.
30.06	Investigate peripheral artery disease related to patient health through the analysis of patient symptoms and diagnostic testing.
30.07	Explain the structure and function of veins and explain how varicose veins form.
30.08	Build a model of the major circulatory routes.
30.09	Analyze risks for cardiovascular disease.
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:
31.01	Explain the human body's ability to generate ATP for the specific time period needed to fuel itself.
31.02	Assess muscle fatigue through interpretation of EMG and grip strength.
31.03	Design an experiment to test and analyze muscle fatigue.
31.04	Describe how the major body systems respond to exercise.
31.05	Understand how a training plan is designed for a fictional client, incorporating the specific health situation of the client.
31.06	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
32.0	Describe the structure and function of the integumentary system. – The student will be able to:
32.01	Classify the various degrees of burns and determine which layers of skin have been damaged for each.
32.02	Explain how burns impact the normal function of the skin and how the damage disrupts homeostasis in the body.
32.03	Explain how the body senses and responds to pain.
32.04	Explain why pain is necessary to human survival.
32.05	Determine the structures that have been damaged following a burn to the skin.
32.06	Analyze the rehabilitation a burn victim must undergo and the impacts it will have on activities of daily living.
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:
33.01	Describe and compare the structure and function of compact and spongy bone.
33.02	Describe the different types of bone fractures.
33.03	Identify bone fractures on x-rays and describe possible damage to internal organs.

CTE Standards and Benchmarks

33.04	Describe the roles of calcitonin and parathyroid hormone in the human body
33.05	Describe the stages of bone remodeling.
33.06	Identify lifestyle choices that affect development and maintenance of healthy bones.
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:
34.01	Describe the structure and function of the lymphatic and immune system.
34.02	Describe the roles of antigens and antibodies.
34.03	Explain the role of blood cells in specific immunity.
34.04	Understand how a pedigree can assist in determining blood types in a family.
34.05	Interpret data on antibody concentrations after an infection.
34.06	Determine potential blood donors for a transfusion through the analysis of blood types and Rh compatibility.
35.0	Analyze how various external factors require body systems to work together to maintain health and homeostasis. – The student will be able to:
35.01	Describe how various body systems respond to extreme external changes in the external environment.
35.02	Explain how body systems work together to maintain homeostasis and complete basic functions.
35.03	Understand how initial symptoms of an illness can lead to diagnosis and treatment.
35.04	Evaluate objective data to create a patient case study.
35.05	Understand that different diseases require different medical interventions.
35.06	Research the role of various medical professionals who will diagnose and treat a fictional patient.

**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.

CTE Standards and Benchmarks	
36.0	Investigate the variety of interventions involved in the prevention, diagnosis and treatment of infectious disease. – The student will be able to:
36.01	Research various medical interventions and explain how these interventions help prevent, diagnose, and treat disease.
36.02	Define bioinformatics and explore how it is used in the collection, classification, storage, and analysis of biochemical and biological information.
36.03	Explain how bacteria can be identified using DNA sequencing.
36.04	Investigate the roles of diagnostic tests for infectious diseases.
36.05	Graphically organize connections between individuals in a fictitious disease outbreak.
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.
37.0	Explore the factors that contribute to the effectiveness of antibiotics against infectious diseases. – The student will be able to:

CTE Standards and Benchmarks

37.01	Analyze and describe the structure of a bacterial cell.
37.02	Investigate how antibiotics disrupt the physiological pathways that bacteria need to survive.
37.03	Explain how bacteria use adaptations to gain resistance to antibiotics.
37.04	Demonstrate one of the pathways through which bacterial cells transfer genes.
37.05	Use a model to simulate the effects of antibiotics on the population of bacteria during an infection.
38.0	Investigate the pathology of hearing loss as a detrimental effect of infectious disease. –The student will be able to:
38.01	Distinguish the properties of sound waves; including frequency and amplitude.
38.02	Explain the anatomy of the ear and create a model of the ear demonstrating how its structure relates to its function.
38.03	Identify diagnostic tests that assess and evaluate hearing loss.
38.03.01	Perform diagnostic tests to assess and evaluate hearing loss.
38.04	Research interventions and services available to aid those with hearing loss.
38.05	Investigate and debate the bioethical concerns related to the use of cochlear implant technology.
39.0	Explore vaccination as a mode of infectious disease prevention. – The student will be able to:
39.01	Explain how vaccines act as medical interventions to defend the body against infectious invaders.
39.02	Explore laboratory methods in which vaccines are produced.
39.03	Describe the structure and function of plasmids and explain their significance in genetic engineering.
39.04	Investigate the importance of epidemiologists and their impact on public health.
39.05	Describe how vaccines interact with the human immune system.
39.06	Interpret data from a disease outbreak to determine the course of the infection.
39.07	Explore general perspectives on the use of vaccinations.
40.0	Investigate the available types of genetic testing/screening and their ethical implications. – The student will be able to:
40.01	Describe genetic testing and how it is used to determine if someone has a genetic disorder.

CTE Standards and Benchmarks

40.02	Explain how genetic counseling impacts a patient's health outcome.
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	Utilize laboratory results to analyze the relationship between genotype and phenotype.
40.06	Analyze prenatal genetic screening results.
40.07	Describe the basics of proper prenatal care as well as specified medical interventions used to monitor a pregnancy.
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.
41.0	Examine the current reproductive and genetic technology and discuss the future of medical interventions. – The student will be able to:
41.01	Explore how gene therapy can be used to treat genetic disorders.
41.02	Discuss and debate the safety and effectiveness of gene therapy.
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).
41.04	Discuss the possibility of reproductive cloning and the ethical concerns.
41.05	Evaluate and debate the potential impact of reproductive technology from moral, ethical and scientific perspectives.
42.0	Explore the diagnostic techniques and technology being used to better diagnose and understand cancer. – The student will be able to:
42.01	Investigate the physiology of cancer and discuss how cancerous cells differ from healthy cells.
42.02	Describe the different uses of x-rays, CT scans, and MRI scans.
42.03	Investigate what DNA microarrays measure and how this information is used to determine differences in gene expression between differing tissues samples.
42.04	Using statistical analysis, determine the similarities between gene expression patterns of multiple patients.
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:
43.01	Describe the potential risk factors for different types of cancer as well as the ways to reduce the risk.
43.02	Explore some of the various cancer screening techniques that can be used to predict risk for developing cancer.
43.03	Investigate the risk factors of viruses and explain the role viruses' play as a risk factor for certain cancers.

CTE Standards and Benchmarks

44.0 Investigate the treatments and therapies available to treat the physical, mental, and emotional effects of cancer. – The student will be able to:

44.01 Identify the major differences between chemotherapy and radiation therapy.

44.02 Describe how chemotherapy drugs interact with and destroy cancer cells.

44.03 Explore biofeedback therapy and how it is utilized to treat cancer and its symptoms.

44.04 Synthesize designs that advances and benefit prosthetic technology for those who have lost their limbs.

44.05 Explain how physical and occupational therapists help patients with disabilities and those recovering from surgery/injury.

45.0 Explore future medical interventions for cancer. – The student will be able to:

45.01 Discuss reasons why therapy drugs do not produce the same effect in all individuals.

45.02 Explain how SNP profiles factor into the decision to prescribe a specific medication.

45.03 Explore the field of pharmacogenetics and its contributions to the improvement of individualized patient treatment.

45.04 Research and present how cases of misuse and abuse have led to strict regulations of human participation in clinical trials.

45.05 Describe the importance of nanomedicine, particularly for cancer research and the development of medical interventions.

46.0 Explore the medical implications of proteins produced and purified in a laboratory setting. – The student will be able to:

46.01 Discuss the evolution of diagnosis and treatment of diabetes from the 1800s through today.

46.02 Explain the various aspects of the bacterial transformation process.

46.03 Define chromatography and how it is used to separate items in a mixture.

46.04 Interpret electrophoresis results to determine the molecular weight of specific proteins in a mixture.

46.05 Explore and discuss specific biomedical careers in the manufacturing of therapeutic proteins.

47.0 Investigate the epidemiology and therapeutic interventions of kidney failure. – The student will be able to:

47.01 Describe End Stage Renal Disease (ESRD) and how it is diagnosed.

47.02 Describe the physiological effects on the body when kidneys do not function properly and its impact on the production of red blood cells.

47.03 Explore the medical options for treatment for persons with ESRD including hemodialysis, peritoneal dialysis and kidney transplant.

CTE Standards and Benchmarks

48.0	Explore the process, policies and procedures involved in organ transplantation. – The student will be able to:
48.01	Discuss factors to consider when deciding who should receive an organ transplant.
48.02	Describe the importance of blood and tissue matching for a successful organ transplant.
48.03	Describe the general steps involved in a live donor laparoscopic nephrectomy.
48.04	Compare the major similarities and differences between a heart and a kidney transplant.
48.05	Explain the most common ways members of the surgical transplant team work together to ensure a successful transplant.
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:
49.01	Explore how a variety of tissues and organs can be transplanted from one organism to another.
49.02	Describe the general process of how xenotransplantation and tissue engineering works, as well as potential risks, benefits, challenges and ethical/moral concerns.
49.03	Reflect on how current methods of medical intervention can be improved.
49.04	Describe how advancing medical knowledge and technology will enable scientists to delay the effects of aging and disease by enhancing the functions of the human body.
49.05	Design a potential “super” human using knowledge of the human body and available medical interventions.

**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

CTE Standards and Benchmarks	
50.0	Investigate biomedical problems related to clinical care by designing an effective emergency care center. – The student will be able to:
50.01	Evaluate the role that biomedical innovation plays in treating disease, reducing wait time and promoting efficient care in emergency room and emergency care centers.
50.02	Assess overall credibility of a website by analyzing its content.
50.03	Produce an effective presentation of scientific information by using oral communication skills and PowerPoint presentation.
50.04	Research and propose solutions to healthcare delivery problems in the 21 st century.
50.05	Design an innovative emergency medicine delivery system.
50.06	Demonstrate proficiency in using online search engines and journal databases to locate scientific articles.
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:
51.01	Critique science data presented in popular media and compare this with data presented in scientific journals.
51.02	Analyze the results of experimental studies using knowledge of specified statistical analysis methods.
51.03	Design, conduct and analyze an experimental study to answer a question regarding one or more body systems.
51.04	Using at least three statistical fallacies, assume the role of an advertisement sales person selling a fictitious product.
51.05	Describe the various biomedical career fields related to clinical or research studies.

CTE Standards and Benchmarks

52.0 Explore the process, knowledge and skills required to design a medical innovation. –The student will be able to:

52.01 Investigate the evolution of biomedical products.

52.02 Brainstorm ideas for a new biomedical product or methods to improve an existing product.

52.03 Discuss the role of the scientific design process and how it is significant to medical innovation.

52.04 Identify a problem related to the medical field and research the past and present solutions to this problem.

52.05 Examine possible design solutions to the selected problem, determine the best approach and develop a design proposal.

52.06 Design a marketing plan to pitch the chosen solution to potential investors.

53.0 Explore biomedical innovation through investigating water contamination. – The student will be able to:

53.01 List and describe multiple causes of water contamination.

53.02 Explain why water quality is a global issue.

53.03 Extrapolate on the cause of non-point source pollution and its implications.

53.04 Using knowledge of specific assays, interpret the results of various chemical and culture assays and identify specific contaminants found.

53.05 Research and propose solutions to prevent or treat water contamination.

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.

53.07 Research and report on the quality of the local water.

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:

54.01 Discuss the significant role that epidemiologists and public health investigators play in a public health crisis.

54.02 Describe how to set-up case control and cohort studies.

54.03 Discuss how measures of association are used to illustrate the correlation between specific risk factors and the development of disease.

54.04 Calculate the measures of association used to assess risk in case control and cohort studies.

54.05 List and discuss the various components that may be involved in a public health intervention plan.

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.

CTE Standards and Benchmarks

54.07	Research local, national and global health issues and analyze how culture, geographic location and access to health care affect health and wellness.
54.08	Write a grant proposal outlining an intervention plan for a particular public health issue.
54.09	Present and defend the proposed intervention plan to a professional audience.
55.0	Understand medical research and the process of writing a scientific grant. – The student will be able to:
55.01	Define and elaborate on what medical research is used for and how funding for it is obtained.
55.02	Explain the role of a grant in relation to medical research.
55.03	Understand the difference between what constitutes a credible source opposed to a non-credible source when conducting a literature search.
55.04	Distinguish between primary and secondary sources.
55.05	Discuss potential bias based on construct and funding sources of research.
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 included in scientific grant proposals (i.e. abstract, specific aims, background and significance, preliminary data/progress, project description, resources, supplemental materials).
55.08	Prepare and present a detailed grant proposal for a research project that will impact a specific aspect of a disease or medical condition.
56.0	(Optional) Use modern molecular biology techniques to clone and transfer DNA. – The student will be able to:
56.01	Explain the structure and function of plasmids, and how they are used in genetic engineering.
56.02	Describe the role restriction enzymes and how they interact with plasmids.
56.03	Interpret plasmid maps to determine the results of specific digestions with restriction enzymes.
56.04	Explain how to assemble recombinant DNA and clone a gene of interest using bacterial cells.
56.05	Interpret gel electrophoresis results to determine the success of a cloning experiment.
56.06	Using the process of bacterial transformation, insert a new plasmid into bacterial cells.
56.07	Draw and label possible ligation products and describe digestion results for each product.
57.0	(Optional) Assuming the role of a medical expert, investigate a mysterious death using forensics autopsy techniques.–The student will be able to:

CTE Standards and Benchmarks

57.01	Describe observations of the internal and external anatomy of a fetal pig.
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.
57.04	Solve the cause of death for a fetal pig by assuming the role of a forensic pathologist.
57.05	Design a fictitious death scenario using knowledge of the human body.
57.06	Create fictitious documents including an autopsy report and medical history to illustrate clues left behind in a dead body.
57.07	Research and reflect on the various biomedical careers involved in forensic pathology and describe two of these careers in detail.
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:
58.01	Choose a topic and describe work previously completed pertaining to that topic.
58.02	Interpret charts, graphs, data sets and any other information related to the project.
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.
58.06	Write a self-analysis of what was learned during the project with a focus on whether things should have been done differently or not.
58.07	Prepare a portfolio of all artifacts related to the project in order to demonstrate the work progression.

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.

Academic Alignment

Secondary Career and Technical Education courses are pending alignment to the B.E.S.T. (Benchmarks for Excellent Student Thinking) Standards for English Language Arts (ELA) and Mathematics that were adopted by the State Board of Education in February 2020. Academic alignment is an ongoing, collaborative effort of professional educators that provide clear expectations for progression year-to-year through course alignment. This initiative supports CTE programs by improving student performance through the integration of academic content within CTE courses.

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.

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 course or a modified course. 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 a Career and Technical Education (CTE) course. The student should work on different competencies and new

applications of competencies each year toward completion of the CTE course. 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: 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.

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 basis of a funeral director's liability for the negligence of a volunteer driver in a funeral procession.
06.01.02	The legal duty of a funeral director regarding permits required by law.
06.01.03	The duty of the funeral director for compliance with the Federal Trade Commission Funeral Rules.
06.01.04	The duty of the funeral director for compliance with the Magnuson-Moss Warranty Act (1975).
06.01.05	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	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	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.).
02.05	Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.
02.06	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	Perform 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	Make decisions based on accurate facts, data, and agreed-upon goals.
05.03	Evaluate the decision made.
05.04	Demonstrate ability to evaluate data and draw conclusions.
05.05	Diagnose problem, its urgency and causes, and documenting as appropriate.
05.06	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	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 bioassays.
06.05	Perform immunological techniques, including but not limited to, enzyme-linked immunosorbent assays, use of monoclonal and polyclonal antibodies, and Western blot techniques.
06.06	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.
06.07	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
06.08	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.
06.09	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.
06.10	Demonstrate knowledge of instrument-based separation, including but not limited to various chromatography techniques and other separation methodologies (e.g., FACS).
06.11	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	Explain 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
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

	College Credit	Career Certificate Program
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:	N/A	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 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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Career Certificate 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 credit 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
Career Certificate Program Number: H170113**

When this program is offered at the Career Certificate Program 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, 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 varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and 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 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 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 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 operator and laboratory equipment.
14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.
14.03	Maintain dental operator 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 extra oral 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, 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 varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and 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 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 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 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 operator and laboratory equipment.
14.02	Identify types and functions of operative, restorative, surgical, prosthodontic, orthodontic and endodontic dental instruments.
14.03	Maintain dental operator 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 extra oral 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 a Career Certificate Program 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: Health Care Services Specialist
Career Cluster: Health Science

CCC	
CIP Number	0351070102
Program Type	College Credit Certificate (CCC)
Program Length	27 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 supervisor assistants 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 entry-level management positions in the health field.

The content includes but is not limited to, laws and regulations pertaining to health care facilities and agencies, organizational structure of health care facilities, 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 information technology applications in healthcare.
- 06.0 Demonstrate employability skills.
- 07.0 Basic knowledge of medical language, anatomy and physiology, disease processes.
- 08.0 Demonstrate knowledge of materials and supplies needed in healthcare settings.
- 09.0 Interpret federal, state and local laws as they apply to health care facilities.
- 10.0 Demonstrate knowledge of the economics involved in healthcare.

Florida Department of Education
Student Performance Standards

Program Title: Health Care Services
 CIP Number: 0351070201
 Program Length: 27 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 (1-8)

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 and techniques for managing team conflict.
01.06	Analyze attributes and attitudes of an effective leader.
01.07	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	Distinguish the differences between effective and ineffective communication practices.
02.03	Distinguish the differences between effective and ineffective online communication.
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 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 the informed consent process.
03.07	Differentiate between legal and ethical issues in healthcare and the key components of personal, professional, and organizational ethics.
03.08	Recognize the limits of authority, responsibility, and reporting protocols within legal, ethical, and illegal practices.
04.0	Recognize and practice safety and security procedures. – The student will be able to:
04.01	Recognize national personal safety standards advocated by leading healthcare agencies and the necessary protocols to mitigate, manage, and report safety hazards.
04.02	Explain how medical errors might occur and describe ways to prevent or mitigate such errors.
04.03	Discuss appropriate regulatory and accrediting agency patient safety guidelines.
04.04	Demonstrate an understanding of the roles and responsibilities of the healthcare professional during manmade and natural disasters.
04.05	Understand benefits and correct method to put on and disrobe from personal protective equipment (PPE).
04.06	Identify risk management in healthcare settings.
05.0	Demonstrate 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, outcome assessment, and quality improvement.
05.06	Identify protected Patient Health Information (PHI) and methods for preventing PHI breaches and technology security.
05.07	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	Demonstrate 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 to include the required levels of education and credentialing, types of workplace settings, 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	Demonstrate knowledge of medical and clinical terminology as relates to healthcare.
07.02	Describe the structure and function of different body systems.
07.03	Demonstrate an understanding of the fundamentals of disease process in relationship to the human body.
07.04	Demonstrate an understanding of basic discharge and transfer procedures.
08.0	Demonstrate knowledge of materials and supplies needed in healthcare settings. – The student will be able to:
08.01	Prepare purchase orders with a focus on quality, price, and quantity required.
08.02	Demonstrate a working knowledge of an effective inventory management system.
08.03	Identify accounts payable practices.
09.0	Interpret federal, state and local laws as they apply to health care facilities. – The student will be able to:
09.01	Cite federal, state and local institutional requirements.
09.02	List required standards and procedures for facility and staff.
09.03	Identify mandatory requirements regarding environmental health and safety standards.

09.04	Discuss the impact of legislative changes on health care facilities.
10.0	Demonstrate knowledge of the economics involved in healthcare. – The student will be able to:
10.01	Identify common methods, benefits and challenges of payment for healthcare services.
10.02	Demonstrate knowledge of reimbursement systems within healthcare.
10.03	Identify billing and insurance terminology.
10.04	Demonstrate understanding of the process of utilization review.
10.05	Demonstrate knowledge of accounts receivable system that monitors and optimizes reimbursement.
10.06	Demonstrate knowledge of third party reimbursements including Center for Medicare/Medicaid Services (CMS) rulings and precedence to other payers.
10.07	Demonstrate basic knowledge of the procedures and purposes of medical documentation, medical billing and coding.
10.08	Demonstrate knowledge of the revenue cycle.
10.09	Explain government impacts to reimbursement (i.e. value-based payment models, government incentive programs, self-pay models, and HCAPS scores).
10.10	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: Health Care Services
Career Cluster: Health Science

THIS PROGRAM HAS BEEN DAGGERED FOR DELETION. THE LAST YEAR TO ENROLL NEW STUDENTS IS 2020-21. BEGINNING IN 2021-22 ALL NEW STUDENTS WILL BE ENROLLED IN THE NEW HEALTH CARE SERVICES SPECIALIST CCC 0351070102. LAST YEAR TO REPORT ENROLLMENT IS 2021-22.

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 (1-8)	
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 (9-14)
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
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

	College Credit	Career Certificate Program
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	HOSA: Future Health Professionals
SOC Codes (all applicable)	31-9094 Medical Transcriptionists 29-2099 Health Technologists and Technicians, All Other	31-9094 Medical Transcriptionists 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level:	N/A	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 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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Career Certificate 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	

College Credit

When offered at the college credit 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 healthcare organizations and health occupations.
- 02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
- 03.0 Explore health informatics as an allied health profession.
- 04.0 Demonstrate an understanding of health data concepts.
- 05.0 Identify the functions of a health record.
- 06.0 Demonstrate an understanding of Health Information Technology.
- 07.0 Discuss classification systems, clinical vocabularies and terminologies.
- 08.0 Evaluate ethical issues in Health Information Professions.
- 09.0 Demonstrate compliance with laws, regulations, and standards that impact healthcare.
- 10.0 Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO).
- 11.0 Demonstrate computer knowledge and skills.
- 12.0 Demonstrate employability skills.
- 13.0 Utilize 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 Perform functions specific to the medical transcription/healthcare documentation specialist.
- 19.0 Perform proficiently in the application of healthcare documentation/transcribing concepts and skills through practical lab experiences.

**Florida Department of Education
Student Performance Standards**

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

When this program is offered at the Career Certificate Program 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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Model the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
02.09	Provide health information education to internal/external stakeholders.

02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and religious groups.
02.11	Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
03.03	Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
04.01	Describe the various uses of primary and secondary health data and data sets.
04.02	Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
06.01	Discuss how changing regulations and technology impact the health information field.
06.02	Interpret information from health information systems and applications in healthcare.
06.03	Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
07.01	Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
08.01	Describe the code of ethics consistent with healthcare occupations.
08.02	Analyze ethical issues related to health information.
08.03	Manage ethical issues related to coding and billing/ healthcare documentation.
09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:

09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
Course Number: HIM0002	
Occupational Completion Point: B	
Medical Transcriber- ATD 1 – 370 Hours – SOC Code 31-9094	
13.0	Utilize 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	Distinguish between or among medical homophones (sound-alikes), 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 procedures and technologies, imaging, laboratory, pathology, 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	Organize 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	Utilize medical dictionaries and specialty word books.
16.02	Utilize trade, generic and chemical drug names utilizing reference sources.
16.03	Utilize diagnostic test terminology.
16.04	Utilize appropriate 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, dictation, and speech recognition technology.
17.03	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.
17.04	Demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
17.05	Identify inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
17.06	Demonstrate advanced use of word processing programs, including commands for editing, file organization, and retrieval.
17.07	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
17.08	Demonstrate a general knowledge of health information systems including the functions related to dictation/transcription integration, editing, and common terminology.
18.0	Perform functions specific to medical transcriptionist/ healthcare documentation specialist. – The student will be able to:
18.01	Promote 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
18.03	Demonstrate an awareness of the opportunities in medical transcription/healthcare documentation and related careers and the importance of professional development.
18.04	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI).
18.05	Explain the scope of work of the medical transcriptionist/healthcare documentation specialist.
18.06	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).

Course Number: HIM0084
Occupational Completion Point: B
Medical Transcriber-ATD 3 – 370 Hours – SOC Code 31-9094

19.0 Perform proficiently in the application of healthcare documentation/transcribing concepts and skills through practical lab experiences. – The student will:

19.01 Model the role and responsibilities of the healthcare documentation transcription specialists.

19.02 Apply knowledge and skills related to speech recognition, dictation, documentation standards, technology, and transcription.

19.03 Perform real-world applications of healthcare documentation/transcription principles and best practices.

19.04 Analyze errors and devise corrective strategies.

19.05 Transcribe and/or edit a minimum 2100 minutes of authentic clinician-generated 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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email 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 education 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 Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
	03.03 Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
	04.01 Describe the various uses of primary and secondary health data and data sets.
	04.02 Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
	06.01 Discuss how changing regulations and technology impact the health information field.
	06.02 Interpret information from health information systems and applications in healthcare.
	06.03 Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
	07.01 Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Analyze ethical issues related to health information.
	08.03 Manage ethical issues related to coding and billing/ healthcare documentation.
09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:

09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
13.0	Utilize 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	Distinguish between or among medical homophones (sound-alikes), 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 procedures and technologies, imaging, laboratory, pathology, 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	Organize 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	Utilize medical dictionaries and specialty word books.
16.02	Utilize trade, generic and chemical drug names utilizing reference sources.

16.03	Utilize diagnostic test terminology.
16.04	Utilize appropriate 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, dictation, and speech recognition technology.
17.03	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.
17.04	Demonstrate the ability to proofread and correct transcribed healthcare documents, including using critical thinking and editing skills.
17.05	Identify inconsistencies, discrepancies, and inaccuracies in healthcare dictation while transcribing/editing, without altering the meaning of the content.
17.06	Demonstrate advanced use of word processing programs, including commands for editing, file organization, and retrieval.
17.07	Demonstrate knowledge of abbreviation expanders and other productivity-enhancing software.
17.08	Demonstrate a general knowledge of health information systems including the functions related to dictation/transcription integration, editing, and common terminology.
18.0	Perform functions specific to medical transcriptionist/ healthcare documentation specialist. – The student will be able to:
18.01	Promote 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
18.03	Demonstrate an awareness of the opportunities in medical transcription/healthcare documentation and related careers and the importance of professional development.
18.04	Explain the importance of maintaining workstation security and safeguarding protected health information (PHI).
18.05	Explain the scope of work of the medical transcriptionist/healthcare documentation specialist.
18.06	Discuss the code of ethics of the Association for Healthcare Documentation Integrity (AHDI).
19.0	Perform proficiently in the application of healthcare documentation/transcribing concepts and skills through practical lab experiences. – The student will:
19.01	Model the role and responsibilities of the healthcare documentation transcription specialists.
19.02	Apply knowledge and skills related to speech recognition, dictation, documentation standards, technology, and transcription.
19.03	Perform real-world applications of healthcare documentation/transcription principles and best practices.

19.04 Analyze errors and devise corrective strategies.

19.05 Transcribe and/or edit a minimum 2100 minutes of authentic clinician-generated 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 a Career Certificate Program 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 healthcare organizations and health occupations.
- 02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
- 03.0 Explore health informatics as an allied health profession.
- 04.0 Demonstrate an understanding of health data concepts.
- 05.0 Identify the functions of a health record.
- 06.0 Demonstrate an understanding of Health Information Technology.
- 07.0 Discuss classification systems, clinical vocabularies and terminologies.
- 08.0 Evaluate ethical issues in Health Information Professions.
- 09.0 Demonstrate compliance with laws, regulations, and standards that impact healthcare.
- 10.0 Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO).
- 11.0 Demonstrate computer knowledge and skills.
- 12.0 Demonstrate employability skills.
- 13.0 Examine the various informatics related disciplines.
- 14.0 Demonstrate ethical and legal principles with regard to the role of the informatics specialist.
- 15.0 Apply appropriate resources in healthcare informatics to retrieve and analyze relevant information.
- 16.0 Manage health data processes and systems.
- 17.0 Analyze healthcare statistics, including research and performance improvement.
- 18.0 Perform appropriate information technology and systems functions.
- 19.0 Perform project management principles and best practices.
- 20.0 Collaborate in the planning, design, selection, implementation, integration, testing, and support for health information systems.
- 21.0 Perform proficiently 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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Model the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.

02.09	Provide health information education to internal/external stakeholders.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and religious groups.
02.11	Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
03.03	Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
04.01	Describe the various uses of primary and secondary health data and data sets.
04.02	Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
06.01	Discuss how changing regulations and technology impact the health information field.
06.02	Interpret information from health information systems and applications in healthcare.
06.03	Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
07.01	Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
08.01	Describe the code of ethics consistent with healthcare occupations.
08.02	Analyze ethical issues related to health information.
08.03	Manage ethical issues related to coding and billing/ healthcare documentation.

09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:
09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
13.0	Examine the various informatics related disciplines. – The student will be able to:
13.01	Identify the development of the informatics discipline, including the present industry environment and future trends.

13.02	Demonstrate comprehensive knowledge of health data standards for implementation of health information systems.
14.0	Demonstrate ethical and legal principles with regard to the role of the informatics specialist. – The student will be able to:
14.01	Apply the Code of Ethics to informatics as it relates to professional organizations.
14.02	Explain the scope of work of the healthcare informatics specialist.
15.0	Apply appropriate 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 processes and systems. – The student will be able to:
16.01	Oversee the collection and maintenance of health data, data sets, quality indicators, and databases.
16.02	Apply policies and procedures to health informatics processes.
16.03	Maintain and verify data quality, standards, and data sources for all health information systems across the continuum of care.
17.0	Analyze healthcare statistics, including research and performance improvement. – The student will be able to:
17.01	Abstract and maintain data for clinical indices/databases/registries.
17.02	Model data as representative visual information to achieve desired outcomes.
17.03	Calculate basic descriptive, institutional, and healthcare statistics.
17.04	Identify common research methods in accordance with Institutional Review Board (IRB) processes and policies.
17.05	Utilize technologies for trend analysis, end user support, decision making, and strategic planning.
17.06	Report data for facility wide quality management and performance improvement programs.
18.0	Perform appropriate information technology and systems functions. – The student will be able to:
18.01	Demonstrate advanced proficiency in using such as spreadsheets and databases in the execution of projects and presentations.
18.02	Utilize specialized software in processes affiliated with treatment, payment, and operations (TPO).
18.03	Apply policies and procedures to facilitate the use of electronic health record (EHR), personal health record (PHR), public health, and other applications and networks.
18.04	Apply knowledge of data base modeling to meet departmental needs.

18.05	Utilize and maintain appropriate electronic or imaging technology for data/record storage.
18.06	Perform queries and generate reports to facilitate decision making.
18.07	Utilize tools and techniques for retention, archiving, and destruction of information in accordance with current requirements and standards in multiple formats.
18.08	Protect data integrity and validity using software and hardware technology.
19.0	Perform project management principles and best practices. – The student will be able to:
19.01	Demonstrate an understanding of the general principles and tools of informatics project management.
19.02	Demonstrate abilities related to team work, project resource allocation, and problem resolution associated in a healthcare informatics project.
20.0	Collaborate in the planning, design, selection, implementation, integration, testing, and support for health information systems. – The student will be able to:
20.01	Apply standard selection processes for health information systems using best practices.
20.02	Implement information technologies across the healthcare continuum of care.
20.03	Identify technological and changing management issues and problem resolution associated with health information systems.
20.04	Benchmark S.M.A.R.T. goals for projects.
20.05	Map workflow and process assessment as it pertains to information technology.
20.06	Summarize information systems theory.
20.07	Describe strategic planning for implementation of health information systems.
20.08	Identify security risks including physical, virtual, and network areas.
20.09	Take part in end-user training sessions, including planning training sessions and development of training material.
20.10	Examine the influence and scope of health information system practices on a national and international scale.
20.11	Oversee user access logs/audit trails to track history of access to and disclosure of identifiable patient data.
21.0	Perform proficiently in the application and integration of healthcare informatics concepts and skills through practical lab experiences. – The student will be able to:
21.01	Model the role and responsibilities of the health informatics specialist as team leader and/or project manager.
21.02	Apply knowledge and skills related to the health information systems, personnel, equipment, and resources.
21.03	Perform real-world applications of healthcare informatics principles and best 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

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
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

	College Credit	Career Certificate Program
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	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2071 Medical Records and Health Information Technicians 29-2099 Health Technologists and Technicians, All Other	29-2071 Medical Records and Health Information Technicians 29-2099 Health Technologists and Technicians, All Other
Basic Skills Level:	N/A	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 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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Career Certificate 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	HIM0091	Medical Coder/Biller I	350 hours	29-2071
	HIM0092	Medical Coder/Biller II	350 hours	
	HIM0093	Medical Coder/Biller III	320 hours	

College Credit

When offered at the college credit 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 healthcare organizations and health occupations.
- 02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
- 03.0 Explore health informatics as an allied health profession.
- 04.0 Demonstrate an understanding of health data concepts.
- 05.0 Identify the functions of a health record.
- 06.0 Demonstrate an understanding of Health Information Technology.
- 07.0 Discuss classification systems, clinical vocabularies and terminologies.
- 08.0 Evaluate ethical issues in Health Information Professions.
- 09.0 Demonstrate compliance with laws, regulations, and standards that impact healthcare.
- 10.0 Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO).
- 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 HCPCS/CPT coding systems, both manual and automated.
- 17.0 Perform coding complexities proficiently.
- 18.0 Explain the significance of health information services as it relates to the medical coder/biller.
- 19.0 Demonstrate professional and ethical behavior of a medical coder/biller.
- 20.0 Perform healthcare revenue cycle management processes.

**Florida Department of Education
Student Performance Standards**

Program Title: Medical Coder/Biller - ATD
Career Certificate Program Number: H170530

When this program is offered at the Career Certificate Program 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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Model the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.

02.09	Provide health information education to internal/external stakeholders.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and religious groups.
02.11	Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
03.03	Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
04.01	Describe the various uses of primary and secondary health data and data sets.
04.02	Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
06.01	Discuss how changing regulations and technology impact the health information field.
06.02	Interpret information from health information systems and applications in healthcare.
06.03	Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
07.01	Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
08.01	Describe the code of ethics consistent with healthcare occupations.
08.02	Analyze ethical issues related to health information.
08.03	Manage ethical issues related to coding and billing/ healthcare documentation.

09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:
09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
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.
13.09	Describe the structure and function of the integumentary system.
13.10	Describe major psychiatric disorders.
14.0	Demonstrate proficiency in the application of medical terminology. – The student will be able to:
14.01	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	Identify terminology specific to healthcare settings including surgical, medical, and therapeutic.
14.06	Apply medical reference sources.
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 pathogenesis and morphology of disease and its role in the disease process.
15.03	Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
15.04	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 HCPCS/CPT coding systems, both manual and automated. – The student will be able to:
16.01	Apply conventions and guidelines used in coding.
16.02	Describe the process to update coding resources.
16.03	Assign and/or verify diagnosis, procedure, HCPCS level II codes, and applicable modifiers and groupings in accordance with official guidelines.
16.04	Utilize ICD-CM, ICD-PCS, CPT (all sections), and HCPCS Level II code sets to assign diagnosis and procedure codes to intermediate and advanced case studies and authentic health records/abstracts.
16.05	Describe components of revenue cycle management and clinical documentation improvement including quality indicators as it relates to coding.
16.06	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	Perform coding complexities proficiently. – The student will be able to:
17.01	Apply advanced coding concepts to complex authentic health records/abstracts and/or case studies across the continuum of care.
17.02	Analyze case-mix, severity of illness systems, and coding quality monitors and reporting.
17.03	Utilize a variety of simulated patient records from across the continuum of care, interpret data, and assign and/or verify codes.
17.04	Analyze the various classification systems.
18.0	Explain the significance of health information services as it relates to the medical coder/biller. – The student will be able to:
18.01	Describe the functions of a health information management department and how this department interacts with the medical coder/biller.
18.02	Describe the development of the health record to include all types used in the current industry.
18.03	Explain the importance of the health record in relation to state and federal agencies, including compliance area.

Course Number: HIM HIM0093
Occupational Completion Point: B
Medical Coder/Biller III – 320 Hours – SOC Code 29-2071

19.0 Demonstrate professional and ethical behavior of a medical coder/biller. – The student will be able to:

19.01 Explain the scope of work of the medical coder/biller.

19.02 Demonstrate ethical coding practices as outlined by professional associations.

20.0 Perform healthcare revenue cycle management processes. – The student will be able to:

20.01 Prepare and submit applicable payer claims.

20.02 Analyze various payer types.

20.03 Perform patient accounting functions including claims, denials, rejections, appeals, collections, and payment resubmission using applicable software.

20.04 Describe characteristics of reimbursement methodology systems across the continuum of care.

20.05 Analyze charge master and superbill maintenance.

20.06 Understand compliance strategies and reporting as well as regulatory guidelines.

**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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email 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 education 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 Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
	03.03 Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
	04.01 Describe the various uses of primary and secondary health data and data sets.
	04.02 Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
	06.01 Discuss how changing regulations and technology impact the health information field.
	06.02 Interpret information from health information systems and applications in healthcare.
	06.03 Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
	07.01 Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
	08.01 Describe the code of ethics consistent with healthcare occupations.
	08.02 Analyze ethical issues related to health information.
	08.03 Manage ethical issues related to coding and billing/ healthcare documentation.
09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:

09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
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.
13.09	Describe the structure and function of the integumentary system.
13.10	Describe major psychiatric disorders.
14.0	Demonstrate proficiency in the application of medical terminology. – The student will be able to:
14.01	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	Identify terminology specific to healthcare settings including surgical, medical, and therapeutic.
14.06	Apply medical reference sources.
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 pathogenesis and morphology of disease and its role in the disease process.
15.03	Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
15.04	Identify and use diagnostic test terminology.
16.0	Demonstrate proficiency in use of ICD and HCPCS/CPT coding systems, both manual and automated. – The student will be able to:
16.01	Apply conventions and guidelines used in coding.
16.02	Describe the process to update coding resources.

16.03	Assign and/or verify diagnosis, procedure, HCPCS level II codes, and applicable modifiers and groupings in accordance with official guidelines.
16.04	Utilize ICD-CM, ICD-PCS, CPT (all sections), and HCPCS Level II code sets to assign diagnosis and procedure codes to intermediate and advanced case studies and authentic health records/abstracts.
16.05	Describe components of revenue cycle management and clinical documentation improvement including quality indicators as it relates to coding.
16.06	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	Perform coding complexities proficiently. – The student will be able to:
17.01	Apply advanced coding concepts to complex authentic health records/abstracts and/or case studies across the continuum of care.
17.02	Analyze case-mix, severity of illness systems, and coding quality monitors and reporting.
17.03	Utilize a variety of simulated patient records from across the continuum of care, interpret data, and assign and/or verify codes.
17.04	Analyze the various classification systems.
18.0	Explain the significance of health information services as it relates to the medical coder/biller. – The student will be able to:
18.01	Describe the functions of a health information management department and how this department interacts with the medical coder/biller.
18.02	Describe the development of the health record to include all types used in the current industry.
18.03	Explain the importance of the health record in relation to state and federal agencies, including compliance area.
19.0	Demonstrate professional and ethical behavior of a medical coder/biller. – The student will be able to:
19.01	Explain the scope of work of the medical coder/biller.
19.02	Demonstrate ethical coding practices as outlined by professional associations.
20.0	Perform healthcare revenue cycle management processes. – The student will be able to:
20.01	Prepare and submit applicable payer claims.
20.02	Analyze various payer types.
20.03	Perform patient accounting functions including claims, denials, rejections, appeals, collections, and payment resubmission using applicable software.
20.04	Describe characteristics of reimbursement methodology systems across the continuum of care.
20.05	Analyze charge master and superbill maintenance.

20.06 Understand compliance strategies and reporting as well as regulatory 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

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
800-626-2633

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, KS 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.

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 a Career Certificate Program 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 1110 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 healthcare organizations and health occupations.
- 02.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
- 03.0 Explore health informatics as an allied health profession.
- 04.0 Demonstrate an understanding of health data concepts.
- 05.0 Identify the functions of a health record.
- 06.0 Demonstrate an understanding of Health Information Technology.
- 07.0 Discuss classification systems, clinical vocabularies and terminologies.
- 08.0 Evaluate ethical issues in Health Information Professions.
- 09.0 Demonstrate compliance with laws, regulations, and standards that impact healthcare.
- 10.0 Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO).
- 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 HCPCS/CPT coding systems, both manual and automated.
- 17.0 Perform coding complexities proficiently.
- 18.0 Explain the significance of health information services as it relates to the medical coder/biller.
- 19.0 Demonstrate professional and ethical behavior of a medical coder/biller.
- 20.0 Perform healthcare revenue cycle management processes.

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 organizations 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 healthcare regulatory agencies and organizations.
01.04	Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential.
01.05	Differentiate the roles of various providers and disciplines throughout the continuum of healthcare and respond to their information needs.
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 with meaningful feedback.
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	Demonstrate ability to create professional correspondence using appropriate email practices and etiquette.
02.07	Use appropriate medical terminology and abbreviations.
02.08	Model the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.

02.09	Provide health information education to internal/external stakeholders.
02.10	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic, ethnic, and religious groups.
02.11	Distinguish between and identify subjective and objective information.
03.0	Explore health information as an allied health 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 professions.
03.03	Demonstrate knowledge of professional associations applicable to the field of health information.
04.0	Demonstrate an understanding of health data concepts. – The student will be able to:
04.01	Describe the various uses of primary and secondary health data and data sets.
04.02	Identify various characteristics of health data quality and standards.
05.0	Identify 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 information as it relates to treatment, payment, and operations (TPO).
06.0	Demonstrate an understanding of Health Information Technology. – The student will be able to:
06.01	Discuss how changing regulations and technology impact the health information field.
06.02	Interpret information from health information systems and applications in healthcare.
06.03	Demonstrate an understanding of creation, use, storage, retrieval, and exchange of health data.
07.0	Discuss classification systems, clinical vocabularies and terminologies. – The student will be able to:
07.01	Explain the use of classification systems, clinical vocabularies, and terminologies as they relate to Health Information Management and nomenclatures.
08.0	Evaluate ethical issues in Health Information Professions. – The student will be able to:
08.01	Describe the code of ethics consistent with healthcare occupations.
08.02	Analyze ethical issues related to health information.
08.03	Manage ethical issues related to coding and billing/ healthcare documentation.

09.0	Demonstrate compliance with laws, regulations, and standards that impact healthcare. – The student will be able to:
09.01	Promote the importance of maintaining ethical and legal standards in compilation and usage of health information.
09.02	Identify all laws and standards that impact health information including the Health Insurance Portability and Accountability Act (HIPAA).
09.03	Explain the composition of the legal health record.
09.04	Apply health information policies and procedures for privacy, confidentiality, and security.
09.05	Articulate legal terms and processes that impact healthcare.
10.0	Apply policies, regulations, and standards to the management of information associated with treatment, payment, and operations (TPO). – The student will be able to:
10.01	Describe how to adapt workflow necessitated by regulatory change.
10.02	Demonstrate knowledge of policies and procedures for access and disclosure of protected health information to authorized users.
10.03	Adhere to appropriate and applicable accrediting agency guidelines.
11.0	Demonstrate computer knowledge and skills. – The student will be able to:
11.01	Demonstrate the ability to create, manage, organize, attach, and retrieve files.
11.02	Demonstrate ability to connect to and perform research on the internet by identifying reliable reputable websites.
11.03	Demonstrate proficiency in word processing, spreadsheets, and presentation software.
11.04	Demonstrate the ability to install software programs.
11.05	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 and exemplify personal traits or attitudes desirable in a member of the healthcare team.
12.02	Model 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	Perform the process to obtain employment: job search, cover letter, resume, application, and thank you letter.
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.
13.09	Describe the structure and function of the integumentary system.
13.10	Describe major psychiatric disorders.
14.0	Demonstrate proficiency in the application of medical terminology. – The student will be able to:
14.01	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	Identify terminology specific to healthcare settings including surgical, medical, and therapeutic.
14.06	Apply medical reference sources.
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 pathogenesis and morphology of disease and its role in the disease process.
15.03	Demonstrate an understanding of pharmacological agents, uses, treatments, and utilizing drug reference sources.
15.04	Identify and use diagnostic test terminology.
16.0	Demonstrate proficiency in use of ICD and HCPCS/CPT coding systems, both manual and automated. – The student will be able to:
16.01	Apply conventions and guidelines used in coding.

16.02	Describe the process to update coding resources.
16.03	Assign and/or verify diagnosis, procedure, HCPCS level II codes, and applicable modifiers and groupings in accordance with official guidelines.
16.04	Utilize ICD-CM, ICD-PCS, CPT (all sections), and HCPCS Level II code sets to assign diagnosis and procedure codes to intermediate and advanced case studies and authentic health records/abstracts.
16.05	Describe components of revenue cycle management and clinical documentation improvement including quality indicators as it relates to coding.
16.06	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	Perform coding complexities proficiently. – The student will be able to:
17.01	Apply advanced coding concepts to complex authentic health records/abstracts and/or case studies across the continuum of care.
17.02	Analyze case-mix, severity of illness systems, and coding quality monitors and reporting.
17.03	Utilize a variety of simulated patient records from across the continuum of care, interpret data, and assign and/or verify codes.
17.04	Analyze the various classification systems.
18.0	Explain the significance of health information services as it relates to the medical coder/biller. – The student will be able to:
18.01	Describe the functions of a health information management department and how this department interacts with the medical coder/biller.
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18.03	Explain the importance of the health record in relation to state and federal agencies, including compliance area.
19.0	Demonstrate professional and ethical behavior of a medical coder/biller. – The student will be able to:
19.01	Explain the scope of work of the Medical Coder/Biller.
19.02	Demonstrate ethical coding practices as outlined by professional associations.
20.0	Perform healthcare revenue cycle management processes. – The student will be able to:
20.01	Prepare and submit applicable payer claims.
20.02	Analyze various payer types.
20.03	Perform patient accounting functions including claims, denials, rejections, appeals, collections, and payment resubmission using applicable software.
20.04	Describe characteristics of reimbursement methodology systems across the continuum of care.

20.05 Analyze charge master and superbill maintenance.

20.06 Understand compliance strategies and reporting as well as regulatory 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 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.

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
800-626-2633

The National Healthcare Association also offers a national certification examination for a Certified Billing and Coding Specialist (CBCS).

National Healthcare 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.

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: 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

This certificate program is part of the Clinical Research Professional AS degree program (1351071902). 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 HIPPA 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 proper use of medical terminology.
- 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 as related to phlebotomy.
- 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 radiologic procedures.
- 34.0 Demonstrate knowledge of pharmaceutical principles and administer medications.
- 35.0 Perform CLIA-waived diagnostic clinical laboratory procedures.
- 36.0 Demonstrate knowledge of emergency preparedness and protective practices.
- 37.0 Perform administrative office duties.

- 38.0 Perform administrative and general skills.
- 39.0 Perform clinical and general skills.
- 40.0 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 proper use of medical terminology. – The student will be able to:
12.01	Use medical terminology as appropriate for a medical assistant.
12.02	Identify medical terms labeling the word parts.
12.03	Define medical terms and abbreviations related to all body systems.
13.0	Demonstrate knowledge of legal and ethical responsibilities for medical assistants. – The student will be able to:
13.01	Describe the role of the medical assistant.
13.02	Understand the importance of order entry as it relates to certification of the medical assistant.
13.03	Provide health care as set forth in Florida Statute 458.3485 for the medical assistant.
13.04	Distinguish between the liability of the physicians and staff members in the medical office.
13.05	Explain the principles for preventing medical liability.
13.06	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.
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 health record (EHR).
15.05	Prepare and maintain medical records both manually and within the electronic health record (EHR).
15.06	Screen and process mail.
15.07	Schedule routine appointments and patient admissions and/or procedures both manually and within the electronic health record (EHR).
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 health record (EHR).
15.13	Receive patients and visitors.
15.14	Identify and maintain office security policies/procedures.

16.0	Demonstrate accepted professional, communication, and interpersonal skills as related to phlebotomy. – 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 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 short-draw specimens or difficult draws.

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 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.
20.03	Demonstrate knowledge of established protocol for patient and specimen identification.
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, light headedness, vomiting, and nerve involvement.
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 hospital acquired infection.

21.02	Describe and practice procedures for infection prevention including hand washing skills.
21.03	Discuss 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	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 and biohazardous materials.
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	Understand intravenous terminology, practices, and equipment.
24.03	Describe the dangers of intravenous treatment.
24.04	Describe the role of the 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 maintain EKG equipment in the work environment.
28.02	Identify three types of lead systems (standard/limb, augmented, and precordial/chest).
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 dysrhythmias that are 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 including but not limited to dietary guidelines necessary for common diseases.
29.10	Create a patient teaching plan which addresses dietary guidelines and special needs.
29.11	Explore and utilize the U.S. Department of Agriculture's "My Plate" Food Guide.
29.12	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 and applying sterile gloves.
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	Perform spirometry.
32.03	Perform oximetry.
32.04	Assist in the performance of a pap and pelvic exam.
33.0	Demonstrate basic radiologic procedures. – The student will be able to:
33.01	Describe the basic operation of radiologic equipment and accessories.
33.02	Describe how to maintain x-ray film files.
33.03	Describe computed and digital radiography systems.
33.04	Educate patients in preparation for radiological exams.

33.05	Demonstrate knowledge of ultrasound treatment.
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	Identify the major classifications of medications for each body system including, indications for use, side effects, and adverse reactions.
34.03	Use correct pharmaceutical abbreviations and terminology.
34.04	Identify various methods and routes of drug administration.
34.05	Instruct patients regarding self-administration of medications.
34.06	Calculate dosage and administer pharmaceuticals to correct anatomical sites, to correct patient, by correct route of administration, at the correct time and document correctly.
34.07	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.
34.08	Demonstrate knowledge of emergency medications for first aid.
34.09	Identify the dangers and complications associated with drug administration.
34.10	Recognize and report medication errors.
34.11	Demonstrate appropriate techniques to:
34.11.01	Prepare and administer non-parenteral medications (solid, liquids, and inhalers).
34.11.02	Prepare and administer parenteral medications.
34.11.03	Reconstitute powdered drugs.
34.11.04	Prepare injections from ampules and vials.
34.11.05	Apply the Seven Rights of Drug Administration
35.0	Perform CLIA-waived diagnostic clinical laboratory procedures. -- The students will be able to:
35.01	Comply with safety signs, symbols, and labels.
35.02	Recognize signs and symptoms that may indicate to the physician a need for laboratory testing.
35.03	Describe the criteria used by Food and Drug Administration (FDA) to classify a test as “CLIA waived” and the regulatory constraints on test performance.
35.04	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.

35.05	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.
35.06	Instruct patients in the proper collection of urine (clean catch, mid-stream), sputum and stool specimens.
35.07	Perform CLIA-waived occult blood tests.
35.08	Perform CLIA-waived urinalysis testing including color and turbidity assessment and reagent test strips.
35.09	Perform CLIA-waived hematology tests (e.g. - hemoglobin, hematocrit).
35.10	Perform CLIA-waived chemistry tests (e.g. - glucose, cholesterol).
35.11	Perform CLIA-waived pregnancy tests.
35.12	Perform CLIA-waived infectious disease testing (e.g. – strep screen, mono test, influenza A/B).
36.0	Demonstrate knowledge of emergency preparedness and protective practices. -- The student will be able to:
36.01	Maintain and operate emergency equipment and supplies.
36.02	Participate in a mock environmental exposure event and document steps taken.
36.03	Explain an evacuation plan for a physician's office.
36.04	Maintain a current list of community resources for emergency preparedness.
37.0	Perform administrative office duties. – The student will be able to:
37.01	Execute data management using electronic health record (EHR) 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.
37.02	Execute non EHR 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.
37.03	Perform various financial procedures, including, but not limited to, billing and collection procedures, payroll procedures, and checkbook procedures.
37.04	Demonstrate knowledge of management in a medical office including but not limited to personnel records, interviewing, various management styles, risk management, and conflict resolution.
38.0	Perform administrative and general skills. – The student will be able to:
38.01	Understand proper and professional telephone technique.
38.02	Recognize and respond to verbal communication.
38.03	Recognize and respond to non-verbal communication.

38.04	Maintain confidentiality and adhere to HIPAA regulations.
38.05	Understand how to document manually and electronically appropriately.
38.06	Understand how to schedule appointments manually and electronically accurately.
38.07	Understand how to schedule inpatient and/or outpatient procedures accurately.
38.08	Greet patients courteously and professionally.
38.09	Demonstrate safety and quality assurance in the workplace.
39.0	Perform clinical and general skills. – The student will be able to:
39.01	Demonstrate aseptic hand washing technique.
39.02	Dispose of bio-hazardous waste in appropriate containers.
39.03	Adhere to sterilization techniques according to standards.
39.04	Practice standard precautions.
39.05	Stage patients and obtain vital signs.
39.06	Obtain patient histories.
39.07	Prepare and maintain examination and treatment area(s).
39.08	Prepare patient for examinations and/or minor office procedures.
39.09	Assist with examinations and/or minor office procedures.
39.10	Provide and document patient education.
39.11	Accurately record and report laboratory tests.
40.0	Display professional work habits integral to medical assisting. – The student will be able to:
40.01	Communicate appropriately in healthcare settings by listening, writing, speaking, and presenting with professional demeanor.
40.02	Collaborate, communicate and interact professionally with other healthcare professionals utilizing technology.
40.03	Contribute to team efforts by fulfilling responsibilities and valuing diversity.
40.04	Exercise proper judgment and critical thinking skills in decision making.

40.05	Adapt to changing organizational environments with flexibility.
40.06	Report as expected, on time, appropriately dressed and groomed and ready to work.
40.07	Model acceptable work habits as defined by company policy.
40.08	Complete and follow through on tasks using time management skills and take initiative as warranted.
40.09	Respond appropriately and quickly to patient's needs and concerns.
40.10	Practice etiquette and social sensitivity in face to face interaction, on the telephone, and the Internet.
40.11	Actively adhere to policies and procedures that protect the patient's confidentiality and privacy.
40.12	Understand 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)

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
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

College Credit		Career Certificate Program
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	HOSA: Future Health Professionals; Skills USA
SOC Codes (all applicable)	29-2052 Pharmacy Technicians	29-2052 Pharmacy Technicians
Basic Skills Level:	N/A	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, 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 and USP 800 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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Regulated Programs

This program is regulated by the Florida Board of Pharmacy.

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.).

Career Certificate 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 credit 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 in various pharmacy settings.
- 15.0 Perform clerical duties as related to pharmacy practice.
- 16.0 Demonstrate knowledge of basic pharmaceutical chemistry and drug classification.
- 17.0 Demonstrate knowledge of inventory management.
- 18.0 Initiate measurement and calculating techniques as it relates to United States Pharmacopeia (USP) 795 (non-sterile) compounding in pharmacy practice.
- 19.0 Demonstrate a basic knowledge of pharmaceutical chemistry as it relates to human physiology.
- 20.0 Prepare and deliver medications.
- 21.0 Repackage unit dose medications.
- 22.0 Prepare United States Pharmacopeia (USP) 797 and USP 800 sterile products.

**Florida Department of Education
Student Performance Standards**

**Program Title: Pharmacy Technician - ATD
Career Certificate Program Number: H170700**

When this program is offered at the Career Certificate Program 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 Career Certificate Program 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.

**Career Certificate Program 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 to include student membership opportunities.
12.05	Identify the current trends and perspectives in the pharmacy practice.
12.06	Identify how team building can facilitate change within the pharmacy working environment.
12.07	Understand the importance of good interpersonal skills/soft skills in various pharmacy settings.
12.08	Demonstrate ethical conduct in job-related activities.
12.09	Identify State of Florida requirements for obtaining and maintaining pharmacy technician registration as well as continuing

	education requirements for renewal.
12.10	Explore the importance of national certification and the continuing education requirements for renewal.
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.
13.03	Identify safety strategies used to prevent medication errors due to pharmaceutical abbreviations and terminology.
14.0	Identify medical and legal considerations in various pharmacy settings. - The student will be able to:
14.01	Articulate the significance of current national and Florida law and administrative rules as they relate to the scope of practice for the pharmacy technician.
14.02	Convey an understanding of patient counseling requirements pertaining to OBRA-90 versus MTM (Medication Therapy Management).
14.03	Convey an understanding of medical legal concepts as they relate to the scope of practice for the pharmacy technician.
14.04	Explain the legal requirements for accurate pharmacy documentation and recordkeeping.
14.05	Demonstrate an understanding of HIPAA in pharmacy practice pertaining to the ethical and legal considerations.
14.06	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy practice.
14.07	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
14.08	Differentiate between controlled substance schedules (CI-CV) and their applicable regulations.
14.09	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials, the utilization of safety data sheets, and hazardous communication symbols.
14.10	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
14.11	Understand and explain the legal requirements for final check by the pharmacist.
14.12	Classify activities that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists.
14.13	Explain the importance of information technology (IT) and its current use in various pharmacy settings.
15.0	Perform clerical duties as related to pharmacy practice. - The student will be able to:
15.01	Demonstrate retail pharmacy dispensing processes.
15.02	Identify potential errors that may result in quality related events.

15.03	Utilize pharmacy software in processing pharmacy prescription data.
15.04	Identify and discuss applications of E-Prescribing and facsimile.
15.05	Utilize and apply interactive communication skills while gathering accurate information from patients and from other healthcare professionals.
15.06	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements.
15.07	Create, complete, and maintain patient profiles including third party billing information.
15.08	Understand the processes of third party billing, resolving rejections, and obtaining authorizations.
15.09	Demonstrate professional telephone communication skills within the scope of practice for the pharmacy technician.
15.10	Demonstrate the knowledge of systems used in maintaining pharmacy records.
15.11	Summarize, evaluate, and describe the role of the technician in quality assurance activities as related to various pharmacy practices.
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification. - 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	Utilize pharmacy reference manuals and web sites.
16.04	Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory management. - The student will be able to:
17.01	Convey an understanding of industry standards in purchasing pharmaceutical supplies, including the Florida Pedigree Law.
17.02	Maintain controlled substance inventory.
17.03	Apply knowledge of pharmacy business math to prescription pricing systems.
17.04	Maintain stock inventory, communicate shortages, and seek solutions to maintain continuity of patient care.
17.05	Create 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 Investigational Drugs, Risk Evaluation and Mitigation Strategies (REMS), off label indications, and emerging drug therapy.
17.08	Convey an understanding of the inventory control process implemented by Title II of the Drug Quality and Security Act.

18.0	Initiate measurement and calculating techniques as it relates to United States Pharmacopeia (USP) 795 (non-sterile) 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	Identify common pharmaceutical weighing equipment.
18.05	Identify common pharmaceutical volume measurement equipment.
18.06	Demonstrate 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 human physiology. - The student will be able to:
19.01	Describe electrolyte balances and imbalances.
19.02	Relate the general sources, classes, indications, mechanisms of actions, routes of administration, side effects, and various types of drug interactions.
19.03	Demonstrate an understanding of common adult doses of medications, duration of common drug therapies, and respective contraindications including the BEERS Criteria.
19.04	Identify potential interactions that require a pharmacist's intervention pertaining to food/alcohol, herbal, OTC, and/or prescription medications.
20.0	Prepare and deliver medications. - The student will be able to:
20.01	Read and prepare medication orders correctly.
20.02	Demonstrate institutional pharmacy dispensing processes.
20.03	Compare all new orders with medications listed on profiles while noting any changes.
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	Understand how to correctly fill and deliver medication cassettes.

20.07 Collect data from medication administration record.

20.08 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 Repackage unit dose medications. - The student will be able to:

21.01 Locate correct stock container.

21.02 Operate unit dose packaging equipment.

21.03 Measure, count, and place individual dose in appropriate containers.

21.04 Understand precautions used when packaging unit dose hazardous drugs.

21.05 Record repackaged medication data correctly.

21.06 Summarize, evaluate, and describe the role of the technician in quality assurance activities as related to repackaging unit dose medication.

22.0 Prepare United States Pharmacopeia (USP) 797 and USP 800 sterile products. - The student will be able to:

22.01 Convey an understanding of United States Pharmacopeia (USP) 797 regulations.

22.02 Convey an understanding of United States Pharmacopeia (USP) 800 regulations.

22.03 Compare medication order with label on vial and check expiration date of product.

22.04 Calculate drug dosage for parenteral use.

22.05 Understand common institutional drug names, dosages, and incompatibilities.

22.06 Reconstitute parenteral medications.

22.07 Demonstrate aseptic technique to withdraw medication from stock vial, measure correct quantity as instructed, select and insert it into IV solution without error.

22.08 Demonstrate aseptic technique to withdraw medication from an ampule using filter needle/straw.

22.09 Prepare parenteral solutions using proper aseptic technique.

22.10 Understand the preparation of Total Parenteral Nutrition (TPN) solutions.

22.11 Understand the preparation of chemotherapeutic agents using proper safety techniques.

22.12	Understand the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
22.13	Place label on IV solution container and record appropriately.
22.14	Perform quality control check of completed product.
22.15	Convey an understanding of the proper storage and disposal requirements of reconstituted and non-reconstituted IV solutions.
22.16	Convey an understanding of the proper storage and disposal of hazardous drugs.
22.17	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 their role in the profession to include student membership opportunities.
12.05	Identify the current trends and perspectives in the pharmacy practice.
12.06	Identify how team building can facilitate change within the pharmacy working environment.
12.07	Understand the importance of good interpersonal skills/soft skills in various pharmacy settings.
12.08	Demonstrate ethical conduct in job-related activities.
12.09	Identify State of Florida requirements for obtaining and maintaining pharmacy technician registration as well as continuing education requirements for renewal.
12.10	Explore the importance of national certification and the continuing education requirements for renewal.
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.
13.03	Identify safety strategies used to prevent medication errors due to pharmaceutical abbreviations and terminology.
14.0	Identify medical and legal considerations in various pharmacy settings. - The student will be able to:
14.01	Articulate the significance of current national and Florida law and administrative rules as they relate to the scope of practice for the pharmacy technician.
14.02	Convey an understanding of patient counseling requirements pertaining to OBRA-90 versus MTM (Medication Therapy Management).
14.03	Convey an understanding of medical legal concepts as they relate to the scope of practice for the pharmacy technician.
14.04	Explain the legal requirements for accurate pharmacy documentation and recordkeeping.
14.05	Demonstrate an understanding of HIPAA in pharmacy practice pertaining to the ethical and legal considerations.
14.06	Convey an understanding of the patient's Bill of Rights as it relates to pharmacy practice.
14.07	Convey an understanding of pertinent laws governing pharmacy practice such as false prescriptions and drug diversion.
14.08	Differentiate between controlled substance schedules (CI-CV) and their applicable regulations.
14.09	Convey an understanding of the Florida Right to Know Act with respect to hazardous materials, the utilization of safety data sheets, and hazardous communication symbols.
14.10	Implement appropriate patient safety goals by applicable accrediting and regulatory organizations.
14.11	Understand and explain the legal requirements for final check by the pharmacist.
14.12	Classify activities that may be performed by pharmacy technicians and those that must be performed by licensed pharmacists.
14.13	Explain the importance of information technology (IT) and its current use in various pharmacy settings.
15.0	Perform clerical duties as related to pharmacy practice. - The student will be able to:
15.01	Demonstrate retail pharmacy dispensing processes.
15.02	Identify potential errors that may result in quality related events.
15.03	Utilize pharmacy software in processing pharmacy prescription data.
15.04	Identify and discuss applications of E-Prescribing and facsimile.
15.05	Utilize and apply interactive communication skills while gathering accurate information from patients and from other healthcare professionals.

15.06	Identify communication modalities that can result in the transmission of inaccurate information, and explain specific ways to make improvements.
15.07	Create, complete and maintain patient profiles including third party billing information.
15.08	Understand the processes of third party billing, resolving rejections, and obtaining authorizations.
15.09	Demonstrate professional telephone communication skills within the scope of practice for the pharmacy technician.
15.10	Demonstrate the knowledge of systems used in maintaining pharmacy records.
15.11	Summarize, evaluate, and describe the role of the technician in quality assurance activities as related to various pharmacy practices.
16.0	Demonstrate knowledge of basic pharmaceutical chemistry and drug classification. -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	Utilize pharmacy reference manuals and web sites.
16.04	Apply knowledge of trade names, and generic name equivalents.
17.0	Demonstrate knowledge of inventory management. - The student will be able to:
17.01	Convey an understanding of industry standards in purchasing pharmaceutical supplies, including the Florida Pedigree Law.
17.02	Maintain controlled substance inventory.
17.03	Apply knowledge of pharmacy business math to prescription pricing systems.
17.04	Maintain stock inventory, communicate shortages, and seek solutions to maintain continuity of patient care.
17.05	Create 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 Investigational Drugs, Risk Evaluation and Mitigation Strategies (REMS), off label indications, and emerging drug therapy.
17.08	Convey an understanding of the inventory control process implemented by Title II of the Drug Quality and Security Act.
18.0	Initiate measurement and calculating techniques as it relates to United States Pharmacopeia (USP) 795 (non-sterile) 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	Identify common pharmaceutical weighing equipment.
18.05	Identify common pharmaceutical volume measurement equipment.
18.06	Demonstrate 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 human physiology. - The student will be able to:
19.01	Describe electrolyte balances and imbalances.
19.02	Relate the general sources, classes, indications, mechanisms of actions, routes of administration, side effects, and various types of drug interactions.
19.03	Demonstrate an understanding of common adult doses of medications, duration of common drug therapies, and respective contraindications including the BEERS Criteria.
19.04	Identify potential interactions that require a pharmacist's intervention pertaining to food/alcohol, herbal, OTC, and/or prescription medications.
20.0	Prepare and deliver medications. - The student will be able to:
20.01	Read and prepare medication orders correctly.
20.02	Demonstrate institutional pharmacy dispensing processes.
20.03	Compare all new orders with medications listed on profiles while noting any changes.
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	Understand how to correctly fill and deliver medication cassettes.
20.07	Collect data from medication administration record.
20.08	Demonstrate use of automated medication dispensing equipment.
21.0	Repackage unit dose medications. - The student will be able to:
21.01	Locate correct stock container.
21.02	Operate unit dose packaging equipment.
21.03	Measure, count, and place individual dose in appropriate containers.

21.04	Understand precautions used when packaging unit dose hazardous drugs.
21.05	Record repackaged medication data correctly.
21.06	Summarize, evaluate, and describe the role of the technician in quality assurance activities as related to repackaging unit dose medication.
22.0	Prepare United States Pharmacopeia (USP) 797 and USP 800 sterile products. - The student will be able to:
22.01	Convey an understanding of United States Pharmacopeia (USP) 797 regulations.
22.02	Convey an understanding of United States Pharmacopeia (USP) 800 regulations.
22.03	Compare medication order with label on vial and check expiration date of product.
22.04	Calculate drug dosage for parenteral use.
22.05	Understand common institutional drug names, dosages, and incompatibilities.
22.06	Reconstitute parenteral medications.
22.07	Demonstrate aseptic technique to withdraw medication from stock vial, measure correct quantity as instructed, select and insert it into IV solution without error.
22.08	Demonstrate aseptic technique to withdraw medication from an ampule using filter needle/straw.
22.09	Prepare parenteral solutions using proper aseptic technique.
22.10	Understand the preparation of Total Parenteral Nutrition (TPN) solutions.
22.11	Understand the preparation of chemotherapeutic agents using proper safety techniques.
22.12	Understand the appropriate technique while using specialized equipment such as: laminar flow hoods, filters, pumps, automated compounders, and barrier isolator.
22.13	Place label on IV solution container and record appropriately.
22.14	Perform quality control check of completed product.
22.15	Convey an understanding of the proper storage and disposal requirements of reconstituted and non-reconstituted IV solutions.
22.16	Convey an understanding of the proper storage and disposal of hazardous drugs.
22.17	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 a Career Certificate Program 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: Healthcare Support Specialist
Career Cluster: Health Science

CCC	
CIP Number	0351081401
Program Type	College Credit Certificate (CCC)
Program Length	21 credit hours
CTSO	HOSA
SOC Codes	31-9099 Healthcare Support Workers, All Other

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.

This program is designed to prepare students for employment as healthcare support workers SOC 31-9099.

The content includes but is not limited to assisting management by expediting and facilitating the maintenance and production of routine administrative and clinical tasks; performing medical administrative activities such as preparing and updating of patients’ medical histories and discharge summaries; learn the special terminology and procedures associated with medicine and assist in the administration of policy. Emphasis is placed upon students’ theoretical and clinical proficiency so they will be well prepared for employment as medical office support staff and healthcare support workers in medical offices, hospitals and other healthcare settings.

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 the ability to communicate and use interpersonal skills effectively.
- 02.0 Demonstrate an understanding of and apply wellness and disease concepts.
- 03.0 Recognize and practice safety and security procedures.
- 04.0 Recognize and practice infection control procedures.
- 05.0 Demonstrate knowledge of blood borne diseases, including HIV/AIDS
- 06.0 Apply basic math and science skills.
- 07.0 Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states.
- 08.0 Describe the cardiovascular system.
- 09.0 Recognize and identify collection reagents supplies, equipment and interfering chemical substances
- 10.0 Practice infection control following standard precautions.

Florida Department of Education
Student Performance Standards

Program Title: Healthcare Support Specialist
CIP Number: 0351081401
Program Length: 21 credit hours
SOC Code(s): 31-9099

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:

01.0	Demonstrate the ability to communicate and use interpersonal skills effectively. – The student will be able to:
01.01	Develop basic speaking and listening skills.
01.02	Develop basic observational skills and related documentation strategies in written and oral form.
01.03	Identify characteristics of successful and unsuccessful communication including communication styles and barriers.
01.04	Respond to verbal and non-verbal cues.
01.05	Compose written communication using correct spelling, grammar, a formatting, confidentiality, and specific formats of letter writing.
01.06	Use appropriate medical terminology and abbreviations.
01.07	Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
01.08	Recognize the importance of patient education regarding healthcare.
01.09	Adapt communication skills to varied levels of understanding and cultural orientation including diverse age, cultural, economic,, ethnic, and religious groups.
01.10	Adapt elements of communication using sender-receiver model.
01.11	Distinguish between and report subjective and objective information.
01.12	Report relevant information in order of occurrence.
02.0	Demonstrate an understanding of and apply wellness and disease concepts. – The student will be able to:
02.01	Describe strategies for prevention of disease including health screenings and examinations.
02.02	Identify personal health practices and environmental factors which affect optimal function of the major body systems.

02.03	Identify psychological reactions to illness including defense mechanisms.
02.04	Identify complementary and alternative health practices.
03.0	Recognize and practice safety and security procedures – The student will be able to:
03.01	Recognize safe and unsafe working conditions and report safety hazards.
03.02	Demonstrate the safe use of medical equipment.
03.03	Identify and practice security procedures for medical supplies and equipment.
03.04	Demonstrate personal safety procedures based on the Occupations Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention (CDC) regulations including standard precautions.
04.0	Recognize and practice infection control procedures. – The student will be able to:
04.01	Define principles of infection control including standard and transmission based precautions.
04.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.
04.03	Describe how to correctly dispose of biohazardous materials according to appropriate government guidelines such as OSHA.
05.0	Demonstrate knowledge of blood borne diseases, including HIV/AIDS. – The student will be able to:
05.01	Recognize emerging diseases and disorders.
05.02	Distinguish between fact and fallacy about the transmission and treatment of diseases caused by blood borne pathogens including Hepatitis B.
05.03	Identify community resources and services available to the individuals with diseases caused by blood borne pathogens.
05.04	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.
05.05	Apply infection control techniques designed to prevent the spread of diseases caused by blood borne pathogens to the care of all patients following CDC guidelines.
05.06	Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.
06.0	Apply basic math and science skills. – The student will be able to:
06.01	Draw, read, and report on graphs, charts, and tables.
06.02	Measure time, temperature, distance, capacity, and mass/weight.
06.03	Make, use, and convert using both traditional and metric units.
06.04	Make estimations and approximations and judge the reasonableness of the result.

06.05	Convert from regular to 24 hour time.
06.06	Demonstrate the ability to evaluate and draw conclusions.
06.07	Organize and communicate the results obtained by observation and experimentation.
06.08	Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solution of the such questions.
06.09	Calculate ratios.
07.0	Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states. – The student will be able to:
07.01	Define the terms Anatomy and Physiology.
07.02	Define both medical terms and abbreviations related to all body systems.
07.03	Define the principle directional terms, planes, quadrants and cavities used in describing the body and the association of body parts to one another.
07.04	Define the levels of organization of the body inclusive of, but not limited to, cells, organs and body systems.
07.05	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.
07.06	Describe symptoms and common disease pathology related to each body system and the relationship of the disease process to other body systems.
07.07	Discuss diagnostic options to identify common disease pathology and corresponding basic treatment.
07.08	Compare structure and function of the body across the life span.
08.0	Describe the cardiovascular system. – The student will be able to:
08.01	Locate the heart and surrounding structures.
08.02	Diagram and label the parts of the heart and list the functions of each labeled part.
08.03	Trace the flow of blood through the cardiopulmonary system.
09.0	Recognize and identify collection reagents supplies, equipment, and interfering chemical substances. – The student will be able to:
09.01	Identify and discuss proper use of appropriate types of equipment needed to collect various clinical laboratory blood specimens by venipuncture.
09.02	Define and utilize correct medical terminology and metric measurement needed for specimen collection.
10.0	Practice infection control following standard precautions. – The student will be able to:
10.01	Describe and practice procedures for infection prevention including hand washing skills.

10.02 Discuss transmission based precautions.

10.03 Identify potential routes of infection and their complications.

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: 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 Sudden Unexpected Infant Death Syndrome (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 Commission on Accreditation of Allied Health Education Programs (CAAHEP). 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, foundational breadth of knowledge of the History of EMS and a complex depth, comprehensive breadth of knowledge of EMS Systems.
- 02.0 Demonstrate a fundamental depth, foundational breath of knowledge of research principles to interpret literature and advocate evidence-based practice.
- 03.0 Demonstrate a complex depth, comprehensive breadth of knowledge of workforce safety and wellness.
- 04.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the principles of medical documentation and report writing.
- 05.0 Demonstrate a complex depth, comprehensive breadth of knowledge of EMS communication system.
- 06.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the therapeutic communication principles.
- 07.0 Demonstrate a complex depth, comprehensive breadth of knowledge of medical legal and ethical concepts related to EMS.
- 08.0 Integrate a complex depth, comprehensive breadth of knowledge of anatomy and physiology of all human systems.
- 09.0 Integrate a comprehensive knowledge in the use of medical terminology and abbreviations into written and oral communication with health care professionals.
- 10.0 Demonstrate a complex knowledge of pathophysiology of major systems.
- 11.0 Integrate the knowledge of the physiological, psychological, and sociological changes throughout human development.
- 12.0 Demonstrate a fundamental knowledge of the principles of public health.
- 13.0 Demonstrate a complex depth, comprehensive breadth of knowledge in the principles of pharmacology.
- 14.0 Demonstrate a complex depth, comprehensive breadth of knowledge of medication administration within the scope of practice of the paramedic.
- 15.0 Demonstrate a complex depth, comprehensive breadth of knowledge of emergency medications within the scope of practice for the paramedic.
- 16.0 Demonstrate a complex depth, comprehensive breadth of knowledge of airway management within the scope of practice of the paramedic across the life span.
- 17.0 Demonstrate a complex depth, comprehensive breadth of knowledge of respiration within the scope of practice of the paramedic across the life span.
- 18.0 Demonstrate a complex breadth, comprehensive breadth of knowledge of ventilator assessment and management across the life span.
- 19.0 Demonstrate a complex depth, comprehensive breadth of knowledge of scene management.
- 20.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the primary assessment for all patient situations.
- 21.0 Demonstrate a complex depth, comprehensive breath of knowledge of the components of history taking.
- 22.0 Demonstrate a complex depth, comprehensive breadth of knowledge of techniques used for a secondary assessment across the life span.
- 23.0 Demonstrate a fundamental depth, foundational breadth of knowledge of monitoring devices within the scope of practice of the paramedic.
- 24.0 Demonstrate a complex depth, comprehensive breadth of knowledge of how and when to perform a reassessment for all patient situations.
- 25.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of medical complaints.
- 26.0 Demonstrate a complex depth, comprehensive breadth of knowledge of neurologic disorders/emergencies across the life span.
- 27.0 Demonstrate a complex depth, comprehensive breadth of knowledge of abdominal and gastrointestinal disorders/emergencies across the life span.
- 28.0 Demonstrate a complex depth, comprehensive breadth of knowledge of immunology disorders/emergencies across the life span.

- 29.0 Demonstrate a complex depth, comprehensive breadth of knowledge of assessment and management of a patient who may have an infectious diseases across the life span.
- 30.0 Demonstrate a complex depth, comprehensive breadth of knowledge in endocrine disorders/emergencies across the life span.
- 31.0 Demonstrate a complex depth, comprehensive breadth of knowledge regarding the assessment and management of psychiatric disorders/emergencies across the life span.
- 32.0 Demonstrate a complex depth, comprehensive breadth of knowledge of cardiovascular disorders/ emergencies across the life span.
- 33.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of toxicology emergencies across the life span.
- 34.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span.
- 35.0 Demonstrate a complex depth, foundational breadth of knowledge of the assessment and management of hematology disorders/emergencies across the life span.
- 36.0 Demonstrate a complex depth, comprehensive breadth of knowledge of genitourinary and renal emergencies across the life span.
- 37.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment findings and the management of gynecology disorders/emergencies across the life span.
- 38.0 Demonstrate a fundamental depth, foundation breadth of knowledge of the assessment and management of non-traumatic fractures across the life span.
- 39.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of common or major diseases of the eyes, ears, nose, and throat across the life span.
- 40.0 Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure.
- 41.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment and management of the trauma patient across the life span.
- 42.0 Demonstrate a complex depth, comprehension breadth of knowledge of pathophysiology, assessment and management of bleeding across the life span.
- 43.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span.
- 44.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span.
- 45.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span.
- 46.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span.
- 47.0 Demonstrate a fundamental depth, foundational breadth of knowledge of head, face, neck, and spine trauma across the life span.
- 48.0 Demonstrate a fundamental depth, foundational breadth of knowledge of nervous system trauma across the life span.
- 49.0 Demonstrate a complex depth, comprehensive breadth of knowledge of special considerations in trauma across the life span.
- 50.0 Demonstrate a complex depth, comprehensive breadth of knowledge of environmental emergencies across the life span.
- 51.0 Demonstrate a complex depth, comprehensive breadth of knowledge of multi-system trauma and blast injuries.

- 52.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the obstetric patient within the scope of practice of the paramedic.
- 53.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the neonatal patient within the scope of practice of the paramedic.
- 54.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the pediatric patient within the scope of practice of the paramedic.
- 55.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the geriatric patient within the scope of practice of the paramedic.
- 56.0 Demonstrate a complex depth, comprehensive breadth of knowledge of management of the patient with special challenges within the scope of practice of the paramedic across the life span.
- 57.0 Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport.
- 58.0 Demonstrate a complex depth, comprehensive breadth of knowledge of establishing and working within the incident management system.
- 59.0 Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident.
- 60.0 Demonstrate a complex depth, comprehensive breadth of knowledge of air Medical transport risks, needs, and advantages.
- 61.0 Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools.
- 62.0 Demonstrate a simple depth, simple breadth of knowledge 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 knowledge 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, foundational breadth of knowledge of the History of EMS and a complex depth, comprehensive breadth of knowledge 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 Florida.
01.04	Explain 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 certification 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 and demonstrate 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 role of the EMS physician in providing medical direction.
01.12	Discuss examples of local protocols.

01.13	Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.
01.14	Describe the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
01.15	Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
01.16	Advocate the need for injury prevention.
01.17	Discuss the diverse types of EMS services and differences in their provision of care.
02.0	Research: Demonstrate a fundamental depth, foundational breath of knowledge of research principles to interpret literature and advocate evidence-based practice. – The student will be able to:
02.01	Interpret results and reach conclusions.
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 knowledge 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 the role of risk assessments and warning signs in cancer and cardiovascular disease.
03.05	Differentiate between 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 and resources 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	Discuss the need to treat each patient as an individual, with respect and dignity.

03.15	Discuss the need to respect the emotional needs of dying patients and their families.
03.16	Discuss the paramedics' role in performing community risk assessment.
04.0	Documentation: Demonstrate a complex depth, comprehensive breadth of knowledge 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	Demonstrate proper use of medical terminology.
04.03	Record 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 PCR (patient care record).
05.0	EMS Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 for an emergency response and transport.
05.03	Discuss the importance of proper terminology when communicating during an emergency.
05.04	Discuss factors that impede or enhance effective verbal and written communications.
05.05	Discuss the legal implications of written communications.
05.06	Identify the components of the local EMS communications system and describe their function and use.
05.07	Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.

05.08	Describe the functions and responsibilities of the Federal Communications Commission.
05.09	Describe how emergency medical dispatch (EMD) functions as an integral part of the EMS system.
05.10	List appropriate information to be gathered by the telecommunicator.
05.11	Demonstrate an organized and concise radio transmission
05.12	Demonstrate an organized and concise patient report upon transfer of care.
06.0	Therapeutic Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 difficult patients.
06.05	Summarize developmental considerations across the life span 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 knowledge 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	Discuss State of Florida and Federal special reporting situations including:
07.02.01	abuse
07.02.02	sexual assault
07.02.03	gunshot and knife wounds
07.02.04	communicable disease
07.02.05	animal bites
07.03	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.
07.04	Differentiate between the scope of practice and the standard of care for paramedic practice.
07.05	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.
07.06	Review the four elements that must be present in order to prove negligence.

07.07	Review the legal concept and limitations of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
07.08	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
07.09	Review consent to include expressed, informed, implied, and involuntary.
07.10	Demonstrate appropriate patient management techniques in a refusal of care situation.
07.11	Discuss the issues of abandonment, negligence, false imprisonment, and battery and their implications to the paramedic.
07.12	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
07.13	Describe the importance of providing accurate communication (oral and written) in substantiating an incident.
07.14	Describe the criteria necessary to honor an advance directive in Florida.
08.0	Anatomy and Physiology: Integrate a complex depth, comprehensive breadth of knowledge 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.
08.02	Demonstrate comprehensive knowledge of anatomy and physiology as it applies to paramedic practice.
09.0	Medical Terminology: Integrate a comprehensive knowledge in the use of 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 medical terminology.
09.02	Demonstrate a comprehensive knowledge of medical terminology as it applies to paramedic practice.
10.0	Pathophysiology: Demonstrate a complex 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	Define and discuss the pathogenesis, signs, and symptoms of distributive, obstructive, neurogenic, anaphylactic, and septic shock.
10.04	Discuss multiple organ dysfunction syndrome (MODS).
10.05	Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury, and cellular death/necrosis.
10.06	Describe genetics and familial diseases and the role they play in pathophysiology.
10.07	Describe the self–defense mechanisms of inflammation and immune responses and their relationships to pathophysiology.

11.0	Life Span Development: Integrate the 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 across the life span.
12.0	Public Health: Demonstrate a 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.
12.02	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 of knowledge 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 practice pertinent to the administration of medications.
13.10	List and describe available drug forms.
13.11	List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
13.12	Describe the process of: <ul style="list-style-type: none"> 13.12.01 pharmacokinetics 13.12.02 pharmacodynamics 13.12.03 theories of drug action 13.12.04 drug-response relationship 13.12.05 factors altering drug responses 13.12.06 predictable drug responses 13.12.07 iatrogenic drug responses 13.12.08 unpredictable adverse drug responses
13.13	Discuss the prevention, recognition and management of adverse medication reactions.

13.14	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 knowledge 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 practice pertinent to the administration of medications.
14.03	Review mathematical principles and demonstrate equations necessary 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	Review 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	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 14.11.01 inhalation route 14.11.02 gastric tube 14.11.03 rectal route
14.12	Differentiate among the different percutaneous routes of medication administration.
14.13	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
14.14	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values.
14.15	Demonstrate principles of medical asepsis in the administration of medications.
14.16	Demonstrate the procedure for disposal of contaminated items and supplies.
14.17	Demonstrate cannulation of peripheral, intravenous and/or external jugular veins.
14.18	Demonstrate intraosseous access.

14.19	Demonstrate administration of medications by the following routes:
14.19.01	oral
14.19.02	sublingual
14.19.03	buccal
14.19.04	auto-injector
14.19.05	inhalation route
14.19.06	intranasal route
14.19.07	subcutaneous route
14.19.08	intramuscular route
14.19.09	intravenous route
14.19.10	intraosseous route
15.0	Emergency Medications: Demonstrate a complex depth, comprehensive breadth of knowledge of emergency medications within the scope of practice for the paramedic. – The student will be able to:
15.01	Discuss 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: Demonstrate a complex depth, comprehensive breadth of knowledge of airway management within the scope of practice of the paramedic across the life span. –The student will be able to:
16.01	Explain the primary objective of airway maintenance.
16.02	Explain the differences in airway anatomy.
16.03	Define, identify and describe a tracheostomy, laryngectomy, stoma, and tracheostomy tube.
16.04	Describe the special considerations in airway management and ventilation for the pediatric patient.
16.05	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
16.06	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
16.07	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
16.08	Describe the indications, contraindications, advantages, disadvantages and complications for performing cricothyrotomy.
16.09	Demonstrate the procedure for percutaneous cricothyrotomy.
16.10	Review the function of the structures located in the upper and lower airway.

16.11	Demonstrate effective techniques of advanced airway management of the following:
16.11.01	orotracheal,
16.11.02	nasotracheal,
16.11.03	subglottic,
16.11.04	supraglottic,
79.22.05	digital intubation
16.12	Describe and demonstrate methods of assessment for confirming correct placement of any airway device.
16.13	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.
17.0	Respiration: Demonstrate a complex depth, comprehensive breadth of knowledge of respiration within the scope of practice of the paramedic across the life span. –The student will be able to:
17.01	List the concentration of gases that comprise atmospheric air.
17.02	Describe the measurement of oxygen in the blood.
17.03	Describe the measurement of carbon dioxide in the blood.
17.04	Describe peak expiratory flow.
17.05	Describe factors that cause decreased oxygen concentrations in the blood.
17.06	Describe the factors that increase and decrease carbon dioxide production in the body.
17.07	Define pulsus paradoxus.
17.08	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
17.09	Review the physiology of ventilation and respiration.
18.0	Ventilation: Demonstrate a complex breadth, comprehensive breadth of knowledge of ventilatory assessment and management across the life span. –The student will be able to:
18.01	Perform and interpret pulse oximetry and capnography.
18.02	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV), BIPAP/CPAP, AND PEEP devices.
19.0	Scene Size-Up: Demonstrate a complex depth, comprehensive breadth of knowledge of scene management. –The student will be able to:
19.01	Describe common hazards found at the scene of a trauma and a medical patient.
19.02	Discuss common mechanisms of injury/ nature of illness.
19.03	Explain the rationale for crew members to evaluate scene safety prior to entering.

19.04	Demonstrate the scene-size-up.
20.0	Primary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge 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 levels of responsiveness using AVPU.
20.04	Discuss and demonstrate methods of assessing the airway across the life span.
20.05	Describe and demonstrate methods used for assessing if a patient is breathing across the life span.
20.06	Differentiate between a patient with adequate and inadequate breathing.
20.07	Describe and demonstrate the methods used to obtain a pulse across the life span.
20.08	Discuss and demonstrate assessing the patient for external bleeding.
20.09	Describe and demonstrate the assessment and interruption of skin color, temperature, moisture, and capillary refill across the life span.
20.10	Explain the reasons for prioritizing a patient for care and transport.
20.11	Describe when it is appropriate to expose the patient completely.
20.12	Differentiate between critical life-threatening, potentially life-threatening, and non-life-threatening patient presentations.
21.0	History Taking: Demonstrate a complex depth, comprehensive breath of knowledge of the components of history taking. –The student will be able to:
21.01	Determine and investigate the chief complaint.
21.02	Describe the components of the patient history.
21.03	Explain the importance of obtaining a SAMPLE and OPQRST history.
21.04	Acknowledge the feelings patients experience during assessment.
21.05	Discuss the value of obtaining a family and social history.
21.06	Describe examples of different techniques the paramedic may use to obtain information from patients, family, or bystanders during the history taking process.
22.0	Secondary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge of techniques used for a secondary assessment across the life span. –The student will be able to:
22.01	Review EMT standards and benchmarks for secondary assessment.

22.02	Describe the techniques of inspection, palpation, percussion, and auscultation.
22.03	Discuss the limitations of conducting a physical exam in the out-of-hospital environment.
22.04	Demonstrate the examination of the patient including all major body systems and anatomical regions.
22.05	Distinguish the importance of abnormal assessment findings in all the major body systems and anatomical regions.
22.06	Describe the evaluation of patient's perfusion status based on findings in the initial assessment.
22.07	State the reasons for performing a rapid trauma assessment.
22.08	Discuss the reason for performing a focused history and physical exam.
22.09	Discuss appropriate gender and cultural considerations regarding assessment.
22.10	Discuss medical identification devices/ systems.
23.0	Monitoring Devices: Demonstrate a fundamental depth, foundational breadth of knowledge of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
23.01	Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies, including but not limited to:
23.01.01	continuous ECG monitoring
23.01.02	12-Lead ECG
23.01.03	capnography (wave form)
23.01.04	co-oximetry
23.01.05	methemoglobin monitoring
23.01.06	total hemoglobin
23.01.07	basic blood chemistry
23.01.08	ultrasound
23.01.09	other devices identified at the EMT level
23.02	Demonstrate the use of the following patient monitoring technologies, including but not limited to:
23.02.01	continuous ECG monitoring
23.02.02	12-Lead ECG
23.02.03	capnography (wave form)
23.02.04	other devices identified at the EMT level
24.0	Reassessment: Demonstrate a complex depth, comprehensive breadth of knowledge of how and when to perform a reassessment for all patient situations. –The student will be able to:
24.01	Describe the components of reassessment and demonstrate the skills involved.
24.02	Discuss the reasons for repeating the primary 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 reassessment of patients across the life span.
25.0	Medical Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of medical complaints. –The student will be able to:
25.01	Identify factors that complicate patient assessment including:
25.01.01	scene safety
25.01.02	environmental factors
25.01.03	chief complaint
25.01.04	paramedic preconceptions
25.01.05	distracting injuries
25.01.06	tunnel vision
25.01.07	patient cooperation
25.01.08	paramedic attitude
25.02	Discuss forming a field impression and utilizing available information to determine a different diagnosis.
26.0	Neurology: Demonstrate a complex depth, comprehensive breadth of knowledge of neurologic disorders/emergencies across the life span. – The student will be able to:
26.01	Identify the risk factors associated with nervous system dysfunction.
26.02	Review the anatomy and physiology of the organs and structures related to nervous system.
26.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with the following neurological conditions, including but not limited to:
26.03.01	coma
26.03.02	altered mental status
26.03.03	seizures
26.03.04	syncope
26.03.05	transient ischemic attack
26.03.06	stroke and intracranial hemorrhage
26.03.07	degenerative neurologic diseases
26.03.08	chronic alcoholism
26.03.09	back disorders
26.04	Describe and differentiate the major types of seizures.
26.05	Describe the types of stroke.
26.06	Describe the significance of the prevalence of neurologic disorders in the United States.
26.07	Discuss screen tools for assessment of stroke and large vessel occlusion.
26.08	Demonstrate the use of stroke screening tools and appropriate decision making regarding transport destination for a stroke patient.

27.0	Abdominal and Gastrointestinal Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge of abdominal and gastrointestinal disorders/emergencies across the life span. – The student will be able to:
27.01	Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
27.02	Differentiate between hemorrhagic and non-hemorrhagic causes of abdominal pain.
27.03	Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.
27.04	Discuss the pathophysiology, signs, and symptoms, and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders, including but not limited to:
27.04.01	both upper and lower gastrointestinal bleeding
27.04.02	acute gastroenteritis.
27.04.03	colitis.
27.04.04	diverticulitis.
27.04.05	appendicitis.
27.04.06	peptic ulcer disease.
27.04.07	bowel obstruction.
27.04.08	Crohn's disease.
27.04.09	pancreatitis.
27.04.10	esophageal varices.
27.04.11	hemorrhoids.
27.04.12	cholecystitis.
27.04.13	acute hepatitis.
27.05	Identify patients at risk for gastrointestinal emergencies.
27.06	Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
28.0	Immunology: Demonstrate a complex depth, comprehensive breadth of knowledge of immunology disorders/emergencies across the life span. – The student will be able to:
28.01	Define and differentiate:
28.01.01	allergic reaction.
28.01.02	anaphylaxis
28.01.03	antigens
28.01.04	antibodies
28.01.05	anaphylactoid reaction
28.02	Review the anatomy and physiology of the organs and structures related to anaphylaxis.
28.03	Describe the prevention of anaphylaxis and appropriate patient education.
28.04	Review the pathophysiology of allergy and anaphylaxis.
28.05	Describe the common methods of entry of allergens into the body.

28.06	Review common antigens most frequently associated with anaphylaxis.
28.07	Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis and allergic reaction.
29.0	Infectious Diseases: Demonstrate a complex depth, comprehensive breadth of knowledge of assessment and management of a patient who may have an infectious disease across the life span – The student will be able to:
29.01	Review EMT standards and benchmarks for infectious disease.
29.02	Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
29.03	Describe the steps of an infectious process.
29.04	Describe and differentiate infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
29.05	Review characteristics of the immune system.
29.06	Perform an assessment of a patient with an infectious/communicable disease.
29.07	Effectively and safely manage a patient with an infectious/communicable disease.
29.08	Review public health principles related to infectious disease.
29.09	Review the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
29.10	Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
29.11	Describes the EMS professional's responsibilities as well as their rights under the Ryan White Act.
29.12	Discuss the pathophysiology, signs, symptoms, assessment, and management and risk factors of significant health concerns.
29.13	Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease.
29.14	Describe the EMS provider's role in patient education and preventing disease transmission.
29.15	Review the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).
30.0	Endocrine Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge in endocrine disorders/emergencies across the life span. – The student will be able to:
30.01	Identify the risk factors related to disorders of the endocrine system.
30.02	Review the anatomy and physiology of organs and structures related to endocrinologic diseases.

30.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following endocrinologic emergencies:
30.03.01	hypoglycemia
30.03.02	hyperglycemia
30.03.03	diabetic ketoacidosis
30.03.04	Cushing's syndrome
30.03.05	adrenal insufficiency
30.03.06	pituitary disorders
30.03.07	thyroid disorders
31.0	Psychiatric: Demonstrate a complex depth, comprehensive breadth of knowledge regarding the assessment and management of psychiatric disorders/emergencies across the life span. – The student will be able to:
31.01	Differentiate among behavior, psychiatric disorders, and behavioral emergencies.
31.02	Discuss the pathophysiology of common psychiatric disorders and behavioral emergencies.
31.03	Discuss the general factors that may cause an alteration in a patient's behavior.
31.04	Discuss the factors/signs or symptoms of various psychiatric emergencies to include suicide.
31.05	Manage a behavioral emergency scenario applying knowledge of medical/legal Florida Statutes.
31.06	Describe and demonstrate the assessment and management of the patient 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 emergencies.
31.09	Explain the importance of provider behavior and communication in the care of a patient with a behavioral emergency.
31.10	Describe and demonstrate methods of restraint that may be used in the management of a patient with a behavioral emergency and possible legal implication.
31.11	List the risk factors (including behaviors) for suicide.
32.0	Cardiovascular: Demonstrate a complex depth, comprehensive breadth of knowledge of cardiovascular disorders/emergencies across the life span. – The student will be able to:
32.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.
32.02	Identify the risk factors of coronary artery disease.
32.03	Review the anatomy and physiology of the heart and circulatory system.
32.04	Discuss the electrophysiology of the heart.
32.05	Discuss and demonstrate ECG monitoring, 12 Lead placement, acquisition, and interpretation.

32.06	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
32.07	Identify the normal characteristics of the point of maximal impulse (PMI).
32.08	Discuss the normal and abnormal heart sounds and how they relate to hemodynamic events in the cardiac cycle.
32.09	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
32.10	Describe the conditions of pulseless electrical activity.
32.11	Compare and contrast electrotherapy to include pacing.
32.12	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan, including but not limited to:
32.12.01	angina
32.12.02	myocardial infarction STEMI/Non-STEMI
32.12.03	congestive heart failure
32.12.04	cardiac tamponade
32.12.05	cardiogenic shock
32.12.06	hypertension and acute hypertensive states
32.12.07	cardiac arrest
32.12.08	vascular disorders
32.12.09	hypertrophic cardiomyopathies
32.12.10	infectious diseases of the heart
32.12.11	congenital abnormalities
32.13	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
32.14	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.
32.15	List the characteristics of a patient eligible for thrombolytic therapy.
32.16	Define the term acute pulmonary edema and describe its relationship to left ventricular failure.
32.17	Discuss preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
32.18	Identify non-cardiac causes of cardiac arrest.
32.19	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
32.20	Identify circumstances and situations where resuscitation efforts would not be initiated or would be terminated.

32.21	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:
32.21.01	cardiopulmonary resuscitation
32.21.02	defibrillation
32.21.03	synchronized cardioversion
32.21.04	transcutaneous pacing
33.0	Toxicology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of toxicology emergencies across the life span. – The student will be able to:
33.01	Define and differentiate among toxicology, poisoning, and overdose.
33.02	Describe the pathophysiology and signs and symptoms of the following toxicological emergencies, including but not limited to:
33.02.01	food poisoning
33.02.02	carbon monoxide poisoning
33.02.03	cyanide poisoning
33.02.04	exposure to acid or alkaline substance
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 substances
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
33.02.15	Opioid overdose
33.02.16	Organa phosphate overdose
33.03	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
33.04	Review various ways that toxins enter the body.
33.05	Discuss and demonstrate the assessment and management for the patient with a toxicological emergency.
33.06	Explain the rationale for contacting medical direction early in the prehospital management of a patient with a toxicological emergency.
33.07	Review the following for Narcan (naloxone):
33.07.01	generic and trade names
33.07.02	medication forms
33.07.03	dose
33.07.04	administration
33.07.05	contraindications

34.0	Respiratory: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span. – The student will be able to:
34.01	Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States.
34.02	Review hypoventilation and hyperventilation, and outline the conditions with which they are often associated.
34.03	Review the anatomy, physiology and functions of the respiratory system.
34.04	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.
34.05	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.
34.06	Review between normal and abnormal breath/lung sounds and its physiologic significance.
34.07	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.
34.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following respiratory conditions, including but not limited to:
34.08.01	pulmonary infections (upper and lower airway)
34.08.02	atelectasis
34.08.03	anatomic or foreign body obstruction
34.08.04	aspiration
34.08.05	asthma
34.08.06	emphysema
34.08.07	chronic bronchitis
34.08.08	spontaneous pneumothorax
34.08.09	pleural effusion
34.08.10	pulmonary embolism
34.08.11	cancer
34.08.12	toxic inhalations
34.08.13	pulmonary edema
34.08.14	acute respiratory distress syndrome (ARDS)
34.08.15	pneumonia
34.08.16	neoplasms of the lung
34.08.17	hyperventilation syndrome
35.0	Hematology: Demonstrate a complex depth, foundational breadth of knowledge of the assessment, and management of hematology disorders/emergencies across the life span – The student will be able to:
35.01	Identify the role of heredity in the risk for hematologic disorders.
35.02	Review the anatomy and physiology of the hematopoietic system.
35.03	Describe volume and volume-control related to the hematopoietic system.

35.04	Explain the significance of the hematocrit with respect to red cell size and number.
35.05	Explain the correlation of the RBC count, hematocrit and hemoglobin values.
35.06	Recognize medications used to decrease the risk of thrombosis.
35.07	Identify blood groups.
35.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following conditions, including but not limited to:
35.08.01	anemia
35.08.02	leukemia
35.08.03	lymphomas
35.08.04	polycythemia
35.08.05	disseminated intravascular coagulopathy
35.08.06	hemophilia
35.08.07	sickle cell disease
35.08.08	multiple myeloma
35.08.09	leukopenia/neutropenia
35.08.10	leukocytosis
35.08.11	thrombocytosis
35.08.12	thrombocytopenia
35.08.13	transfusion complications
36.0	Genitourinary/Renal: Demonstrate a complex depth, comprehensive breadth of knowledge of genitourinary and renal emergencies across the life span. – The student will be able to:
36.01	Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
36.02	Review the anatomy and physiology of the organs and structures related to urogenital diseases.
36.03	Discuss referred pain and visceral pain as it relates to urology.
36.04	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients of the following urologic and renal conditions, including but not limited to:
36.04.01	acute renal failure
36.04.02	chronic renal failure
36.04.03	complications related to hemodialysis and peritoneal dialysis.
36.04.04	renal calculi
36.04.05	priapism
36.04.06	testicular torsion
36.04.07	urinary tract infection
36.05	Review fluids, electrolytes, and acid based disturbances.

37.0	Gynecology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment findings and the management of gynecology disorders/emergencies across the life span. – The student will be able to:
37.01	Review anatomy and physiology of the female reproductive system.
37.02	Identify the normal events of the menstrual and ovarian cycle.
37.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with specific gynecological emergencies, including but not limited to:
37.03.01	infection (including pelvic inflammatory disease, Bartholin’s abscess, and vaginitis/ vulvovaginitis)
37.03.02	ovarian cyst and ruptured ovarian cyst
37.03.03	ovarian torsion
37.03.04	endometriosis
37.03.05	dysfunctional uterine bleeding
37.03.06	prolapsed uterus
37.03.07	vaginal foreign body
37.03.08	vaginal hemorrhage
37.04	Describe the importance of maintaining a patient’s modesty and privacy while still being able to obtain necessary information.
37.05	Discuss 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, foundation breadth of knowledge of the assessment and management of non-traumatic fractures across the life span. – The student will be able to:
38.01	Review the anatomy and physiology of the musculoskeletal system
38.02	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with musculoskeletal emergencies, including but not limited to:
38.02.01	osteomyelitis and tumors
38.02.02	disc disorders, lower back pain (cauda equine syndrome, sprain, and strain.)
38.02.03	joint abnormalities
38.02.04	muscle abnormalities
38.02.05	overuse syndrome
38.02.06	soft tissue infections
39.0	Diseases of the Eyes, Ears, Nose, and Throat: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of common or major diseases of the eyes, ears, nose and throat across the life span. – The student will be able to:
39.01	Review the anatomy and physiology of the eyes, ears, nose, and throat.

39.02	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various eye diseases/injuries, including but not limited to:</p> <ul style="list-style-type: none"> 39.02.01 burns of eye and adnexa 39.02.02 conjunctivitis 39.02.03 corneal abrasions 39.02.04 foreign body 39.02.05 inflammation of the eyelid 39.02.06 glaucoma 39.02.07 hyphemia 39.02.08 iritis 39.02.09 papilledema 39.02.10 retinal detachment and defect 39.02.11 cellulitis of orbit
39.03	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various ear diseases/injuries including:</p> <ul style="list-style-type: none"> 39.03.01 foreign body 39.03.02 impacted cerumen 39.03.03 labyrinthitis 39.03.04 Meniere's disease 39.03.05 otitis external and media 39.03.06 perforated tympanic membrane
39.04	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various nose diseases/injuries including:</p> <ul style="list-style-type: none"> 39.04.01 epistaxis 39.04.02 foreign body intrusion 39.04.03 rhinitis 39.04.04 sinusitis
39.05	<p>Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with oropharynx/throat diseases/injuries including:</p> <ul style="list-style-type: none"> 39.05.01 dentalgia and dental abscess 39.05.02 diseases of oral soft tissue/ Ludwig's angina 39.05.03 foreign body intrusion 39.05.04 epiglottitis 39.05.05 laryngitis 39.05.06 tracheitis 39.05.07 oral candidiasis 39.05.08 peritonsillar abscess 39.05.09 pharyngitis/tonsillitis 39.05.10 temporomandibular joint disorders
40.0	<p>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:</p>

40.01	Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.
40.02	Review the anatomy and physiology of the cardiovascular and respiratory systems.
40.03	Contrast the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.
40.04	Discuss and demonstrate the assessment and management of shock.
40.05	Review the management of external hemorrhage.
40.06	Discuss appropriate fluid resuscitation.
40.07	Review the following for the cardiac arrest victim:
40.07.01	epidemiology
40.07.02	pathophysiology
40.07.03	physiology of blood flow during external chest compressions
40.07.04	resuscitation success/research
40.08	Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.
40.09	Discuss causes, pathophysiology, signs, and symptoms and management of special arrest and peri-arrest conditions, including but not limited to:
40.09.01	electrolyte disorders
40.09.02	toxic exposures
40.09.03	drowning
40.09.04	hypothermia
40.09.05	near-Fatal Asthma
40.09.06	anaphylaxis
40.09.07	trauma
40.09.08	pregnancy
40.09.09	electrical shock and lightning strikes
40.10	Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
40.11	Discuss and demonstrate the assessment and management of internal hemorrhage.
40.12	Review the stages and classifications of hemorrhage.
40.13	Review the pathophysiology and demonstrate the assessment and management of the different types of shock.
40.14	Describe the effects of decreased perfusion at the capillary level.
40.15	Relate pulse pressure changes to perfusion status.
40.16	Relate orthostatic vital sign changes to perfusion status.

40.17	Define and differentiate between compensated and decompensated shock for all types of shock.
40.18	Discuss and differentiate the physiological manifestations of shock across the life span.
41.0	Trauma Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of the trauma patient across the life span. – The student will be able to:
41.01	Review the pathophysiology of the trauma patient.
41.02	Review the components of comprehensive trauma systems and levels of trauma centers.
41.03	Review the considerations for different transportation modes to a trauma center.
41.04	Discuss the kinematics of blunt and penetrating trauma.
41.05	Discuss and describe significant and non-significant mechanism of injury (MOI) and provide examples of each.
41.06	Discuss and demonstrate the application of State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code.
41.07	Review the National Trauma Triage Protocol of Injured Patients.
41.08	Review forming a field impression and utilizing available information to determine a differential diagnosis.
41.09	Review the need for rapid intervention transport of the trauma patient.
42.0	Bleeding: Demonstrate a complex depth, comprehension breadth of knowledge of pathophysiology, assessment and management of bleeding across the life span. – The student will be able to:
42.01	Review the compensatory mechanism in hemorrhagic shock.
42.02	Review the administration of medications to assist in the maintenance of homeostasis.
42.03	Review the maintenance of tissue oxygenation in a bleeding patient.
42.04	Discuss appropriate fluid resuscitation for the patient in hemorrhagic shock.
42.05	Review the different methods/modalities of controlling bleeding.
43.0	Chest Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span. – The student will be able to:
43.01	Review the anatomy and physiology of the organs and structures related to thoracic injuries.

43.02	Review the pathophysiology, signs and symptoms and mechanism of injury (MOI) of the following injuries, including but not limited to:
43.02.01	myocardial injuries
43.02.01.1	pericardial tamponade
43.02.01.2	myocardial contusion
43.02.01.3	myocardial rupture
43.02.02	vascular injury
43.02.02.1.1	aortic dissection
43.02.02.1.2	pulmonary contusion
43.02.03	hemothorax
43.02.04	pneumothorax
43.02.05	hemopneumothorax
43.02.06	cardiac Tamponade
43.02.07	commotio cordis
43.02.08	tracheobronchial disruption
43.02.09	diaphragmatic rupture and injury
43.02.10	traumatic asphyxia
43.02.11	rib fracture
43.02.12	flail segment
43.02.13	sternal fracture
43.02.14	vascular injuries
43.02.15	impaled objects
43.02.16	evisceration/shock
43.03	Discuss monitoring of chest tubes.
43.04	Demonstrate the following techniques of management for thoracic injuries: needle decompression, elective intubation, ECG monitoring, oxygenation, and ventilation
44.0	Abdominal and Genitourinary Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span. – The student will be able to:
44.01	Review the anatomy and physiology of organs and structures related to abdominal injuries.
44.02	Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
44.03	Describe and demonstrate the pathophysiology, signs and symptoms and the assessment and management for, including but not limited to:
44.03.01	pelvic fractures.
44.03.02	solid organ injuries
44.03.03	hollow organ injuries
44.03.04	abdominal vascular injuries
44.03.05	retroperitoneal space (kidneys)
44.03.06	genitourinary system

44.04	Review the psychological considerations associated with genitourinary injuries.
45.0	Orthopedic Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span. – The student will be able to:
45.01	Review the anatomy and physiology of the musculoskeletal system, include the healing process.
45.02	Discuss pathophysiology, signs and symptoms, and MOI for orthopedic trauma.
45.03	Define the different types of orthopedic trauma including fracture classifications.
45.04	List the 6 “P” orthopedic injury assessment.
45.05	Discuss the following management techniques: 45.05.01 heat therapy 45.05.02 cold therapy 45.05.03 splinting
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic trauma including medication administration (analgesics and anxiolytics).
45.07	Discuss the need for assessment of distal pulses, motor, and sensation before and after splinting.
45.08	Review age-associated changes in bones.
45.09	Define luxation and subluxation.
45.10	Explain the rationale for splinting at the scene versus load and go.
45.11	Demonstrate the proper use various splinting materials and devices to include improvised and traction splints.
45.12	Discuss and demonstrate the assessment and management of compartment and crush syndrome: 45.12.01 destination decision 45.12.02 rhabdomyolysis
45.13	Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder, and Achilles.
45.14	Discuss the proper procedure to package an amputated body part for replantation.
46.0	Soft Tissue Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span. – The student will be able to:
46.01	Review anatomy and physiology and identify the major functions of the integumentary system.

46.02	Discuss the pathophysiology of soft tissue injuries and the healing process including:
46.02.01	inflammation
46.02.02	epithelialization
46.02.03	neovascularization
46.02.04	collagen Synthesis
46.02.05	alterations in wound healing
46.02.06	abnormal scar formation
46.03	Describe and demonstrate the assessment and management of various soft tissue injuries.
46.04	Identify types of burn injuries including:
46.04.01	thermal burn
46.04.02	chemical burn
46.04.03	electrical burn
46.04.04	radiation burn
46.05	Describe the depth classification of burn injuries including:
46.05.01	superficial burn
46.05.02	partial-thickness burn
46.05.03	full-thickness burn
46.05.04	other depth classification
46.06	Describe and demonstrate methods for determining body surface area percentage of a burn injury including the “rule of nines”, the “rule of palms”, and other methods.
46.07	Explain how the seriousness of a burn is related to its depth and percentage of body surface area (BSA) involved.
46.08	Review the various management techniques for hemorrhage control.
46.09	Differentiate among the types of injuries requiring the use of occlusive versus non-occlusive dressing.
46.10	Demonstrate the proper use of any Morgan□type lens for irrigation of the eye.
46.11	Demonstrate the assessment and management of specific burn injuries including:
46.11.01	thermal
46.11.02	inhalation
46.11.03	chemical
46.11.04	electrical
46.11.05	radiation
46.12	Describe the pathophysiologic complications and systemic complications of a burn injury.
46.13	Discuss comorbidities in burn patients.
46.14	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management.
46.15	Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.

46.16	Discuss appropriate fluid resuscitation for burn patients.
47.0	Head, Face, Neck, and Spine: Demonstrate a fundamental depth, foundational breadth of knowledge of head, face, neck, and spine trauma across the life span. – The student will be able to:
47.01	Discuss types of and potential complications of facial injuries.
47.02	Discuss pathophysiology, signs and symptoms, assessment and management, and a field impression for injuries to the following areas:
47.02.01	eye(s)
47.02.02	nose
47.02.03	throat/neck
47.02.04	face
47.02.05	mouth
47.02.06	ear(s)
47.03	Distinguish between an open and closed head injury.
47.04	Define and explain the process involved with increasing ICP.
47.05	Describe and demonstrate the assessment and general management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.
47.06	Discuss the pathophysiology, signs and symptoms, and assessment and management for a patient for each of the following conditions:
47.06.01	skull fracture
47.06.02	cerebral contusion
47.06.03	intracranial hemorrhage
47.06.04	epidural, subdural, intracerebral, and subarachnoid
47.06.05	perforated tympanic membranes
47.06.06	orbital fracture
47.06.07	mandibular fracture
47.07	Review various methods for stabilization and removal of a helmet.
48.0	Nervous System Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of nervous system trauma across the life span. – The student will be able to:
48.01	Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.

48.02	Discuss pathophysiology, signs and symptoms, assessment, and management of the following nervous system injury including:
48.02.01	Cauda Equine syndrome
48.02.02	peripheral nerve injuries
48.02.03	intracerebral hemorrhage
48.02.04	cranial fractures
48.02.05	brain tissue injuries
48.02.06	spinal cord injuries
48.02.07	Brown-Sequard Syndrome
48.02.08	anterior cord syndrome
48.02.09	central cord syndrome
48.02.10	spinal shock
48.03	Discuss the mechanism of injury which would result in a nervous system injury.
48.04	Review the rationale for and potential for motion restriction for the entire spine when a cervical spine injury is suspected
48.05	Discuss the research involving the management of nervous system injuries and patient management.
49.0	Special Considerations in Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of special considerations in trauma across the life span. – The student will be able to:
49.01	Integrate the assessment and management differences associated with the following special populations:
49.01.01	pregnancy
49.01.02	pediatric
49.01.03	geriatric
50.0	Environmental Emergencies: Demonstrate a complex depth, comprehensive breadth of knowledge of environmental emergencies across the life span. – The student will be able to:
50.01	Discuss the pathophysiology, signs and symptoms, assessment and management and MOI of the following:
50.01.01	drowning and water related incidents
50.01.02	temperature-related illness
50.01.03	bites and envenomation
50.01.04	diving injuries
50.01.05	lightning (electrical) injury
50.01.06	high altitude illness
50.02	Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.
50.03	Review several methods of temperature monitoring.
50.04	Describe the general process of thermal regulation, including substances used and wastes generated.
50.05	Define fever and discuss its pathophysiologic mechanism.
50.06	Discuss the role of fluid therapy in the treatment of temperature related emergencies.

50.07	Review the gas laws related to the pathophysiology of injury in a submersion emergency.
50.08	Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
50.09	Differentiate among the various treatments and interventions for the management of diving accidents.
50.10	Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
51.0	Multi-Systems Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of multi-system trauma and blast injuries. – The student will be able to:
51.01	Review the priority of care in the multisystem trauma patient.
51.02	Explain which ALS interventions should occur prior to a transport decision and during transport.
52.0	Obstetrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the obstetric patient within the scope of practice of the paramedic. – The student will be able to:
52.01	Review the anatomy and physiology of the reproductive system.
52.02	Define the stages of labor and discuss how to assess them.
52.03	Differentiate between cephalic and abnormal delivery.
52.04	Describe the management of a patient with pre-delivery emergencies.
52.05	Discuss and demonstrate the patient care for all stages of labor in a cephalic delivery for the mother and the newborn.
52.06	Describe the procedures for handling complications of delivery.
52.07	Describe the management of the mother post-delivery.
52.08	Demonstrate the procedures for handling complications of pregnancy including per-eclampsia and high risk.
52.09	Describe the management of the mother post-delivery.
52.10	Discuss and demonstrate the patient care measures for all stages of labor in abnormal deliveries for the mother and the newborn.
52.11	Describe special considerations when meconium is present in amniotic fluid or during delivery.
53.0	Neonatal Care: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the neonatal patient within the scope of practice of the paramedic. – The student will be able to:
53.01	Review the term neonate.
53.02	Identify antepartum and intrapartum factors that can affect the neonate.
53.03	Discuss pulmonary perfusion and asphyxia.

53.04	Calculate the Apgar score given various neonate situations.
53.05	Review resuscitation equipment and procedures for the neonate
53.06	Determine when an orogastric tube should be inserted during positive-pressure ventilation.
53.07	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
53.07.01	apnea
53.07.02	bradycardia
53.07.03	acidosis
53.07.04	pneumothorax
53.07.05	meconium-stained
53.07.06	low blood volume
53.07.07	dysphemistic hernia
53.07.08	respiratory distress
53.07.09	respiratory depression secondary to narcotics
53.07.10	low birth weight
53.07.11	seizures
53.07.12	hypoglycemia
53.07.13	diarrhea
53.07.14	jaundice
53.07.15	fever
53.07.16	hypothermia
53.07.17	birth injuries
53.07.18	cardiac conditions
53.08	Discuss post arrest management of the neonate.
53.09	Discuss vascular access cannulation techniques for a newborn including umbilical vein/artery access.
54.0	Pediatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the pediatric patient within the scope of practice of the paramedic. – The student will be able to:
54.01	Discuss key anatomical, physiological, and developmental characteristics of infants and children and their implications.
54.02	Review and demonstrate techniques for successful assessment and treatment of infants and children.
54.03	Review airway and ventilatory considerations and procedures for pediatric patients.
54.04	Discuss the indications and methods for gastric decompression for infants and children.

54.05	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
54.05.01	altered level of consciousness
54.05.02	trauma
54.05.03	hypo-perfusion
54.05.04	respiratory distress/failure
54.05.05	cardiac dysrhythmia
54.05.06	neurological emergency
54.05.07	abuse/neglect
54.05.08	SUIDS
54.05.09	FABO
54.05.10	respiratory emergencies
54.05.11	congenital heart disease
54.05.12	hydrocephalus/VP shunts
54.06	Discuss the appropriate procedure and equipment for vascular and intraosseous access.
54.07	Review basic cardiac life support (CPR) guidelines for infants and children.
54.08	Integrate advanced life support skills with basic cardiac life support for infants and children.
54.09	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.
54.10	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
54.11	Discuss the parent/caregiver responses to the death of an infant or child.
54.12	Discuss and demonstrate the use of a length-based resuscitation tape and other methods for determining equipment sizes, drug doses, and other pertinent information for a pediatric patient.
54.13	Discuss proper placement of a gastric tube in infants and children.
54.14	Review appropriate routes and techniques for medication administration.
54.15	Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
55.0	Geriatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the geriatric patient within the scope of practice of the paramedic. – The student will be able to:
55.01	Review and discuss the term geriatrics
55.02	Review the anatomy, physiology, and pathophysiology of the geriatric patient.
55.03	Discuss common emotional and psychological concerns and conditions of the geriatric patient.
55.04	Discuss the importance of fall prevention with the geriatric patient.

55.05	Describe principles that should be employed when assessing and communicating with the geriatric patient.
55.06	Describe the common causes, assessment and management of the geriatric patient with a medical, trauma, or psychosocial complaint.
55.07	Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
55.08	Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
56.0	Patients with Special Challenges: Demonstrate a complex depth, comprehensive breadth of knowledge of management of the patient with special challenges within the scope of practice of the paramedic across the life span. – The student will be able to:
56.01	Discuss the special considerations required when providing emergency care to patients with:
56.01.01	abuse/neglect of vulnerable populations
56.01.02	homelessness
56.01.03	poverty
56.01.04	bariatrics
56.01.05	tech dependent
56.01.06	hospice/terminally ill
56.01.07	tracheostomy
56.01.08	home care
56.01.09	sensory deficit/loss
56.01.10	developmental disability
56.02	Discuss special considerations regarding common medical devices used in the home care of patients with special challenges including:
56.02.01	respiratory devices
56.02.02	cardiac devices
56.02.03	gastro-urinary devices
56.02.04	central & peripheral IV catheters
56.03	Describe home care and the types of patients it serves and the services it encompasses.
56.04	Describe the characteristics associated with the profile of the typical abuser of:
56.04.01	domestic abuser
56.04.02	elder abuser
56.04.03	child abuser
56.05	Discuss the role of the Paramedic as a patient advocate for vulnerable populations.
56.06	Differentiate between hospice/palliative care and curative care.
56.07	Describe paraplegia/quadriplegia.
56.08	Describe the various etiologies of mental illness.

56.09	Recognize the presenting signs of the following:
56.09.01	autism spectrum
56.09.02	developmental disability
56.09.03	down's syndrome
56.10	Describe the following diseases/illnesses and identify each of their possible presenting signs, including but not limited to:
56.10.01	arthritis
56.10.02	cancer
56.10.03	cerebral palsy
56.10.04	cystic fibrosis
56.10.05	multiple sclerosis
56.10.06	muscular dystrophy
56.10.07	myasthenia gravis
56.10.08	poliomyelitis
56.10.09	spina bifida,
56.10.10	patients with a previous head injury
56.10.11	mental illness
56.11	Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
56.12	Describe the access and discuss indwelling catheters, implanted central IV ports and central line monitoring.
56.13	Describe complications of assessing each of the airway, vascular access, and GI/GU devices.
56.14	Identify and describe the failure of wound drains.
56.15	Review the rights of the terminally ill.
56.16	Demonstrate proper tracheotomy care.
56.17	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.
57.0	Principles of Safely Operating a Ground Ambulance: Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport. – The student will be able to:
57.01	Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
58.0	Incident Management: Demonstrate a complex depth, comprehensive breadth of knowledge of establishing and working within the incident management system. – The student will be able to:
58.01	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.
59.0	Multiple Casualty Incidents: Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident. – The student will be able to:
59.01	Review the EMT standards and benchmarks for Multiple Casualty Incidents.

60.0	Air Medical: Demonstrate a complex depth, comprehensive breadth of knowledge of air medical transport risks, needs and advantages. – The student will be able to:
60.01	Describe the advantages and disadvantages of air medical transport.
60.02	Identify appropriate reasons for the use of air medical for emergency patient transport.
60.03	Describe the risks involved with the use of air medical transport.
60.04	Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response.
60.05	Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel.
61.0	Vehicle Extrication: Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools. – The student will be able to:
61.01	Review the EMT standards and benchmarks for Vehicle Extrication.
62.0	Hazardous Materials Awareness: Demonstrate a simple depth, simple breadth of knowledge 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	Review the EMT standards and benchmarks for Hazardous Materials Awareness.
63.0	Mass Casualty Incidents due to Terrorism and Disasters: Demonstrate a simple depth, simple breadth of knowledge of risks and responsibilities of operating on the scene of a natural or man- made disaster. – The student will be able to:
63.01	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**
Program Type: **ATD (Applied Technology Diploma)**
Career Cluster: **Health Science**

	College Credit	Career Certificate Program
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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Career Certificate 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 college credit 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 Sudden Unexpected Infant Death Syndrome (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.

It is strongly recommended this program be accredited by Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Standards

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

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

- 28.0 Demonstrate a simple depth, simple breadth of knowledge of the assessment and management of a patient who may have an infectious disease across the life span.
- 29.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of endocrine disorders/emergencies across the life span.
- 30.0 Demonstrate a fundamental depth, foundational breadth of knowledge regarding the assessment and management of psychiatric emergencies across the life span.
- 31.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of cardiovascular emergencies across the life span.
- 32.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of toxicological (poisoning and overdose) emergencies across the life span.
- 33.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span.
- 34.0 Demonstrate a simple depth, simple breadth of knowledge of the assessment, and management of hematology disorders across the life span.
- 35.0 Demonstrate a simple depth, simple breath of knowledge of the assessment and management of genitourinary/ renal emergencies across the life span.
- 36.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of gynecologic emergencies across the life span.
- 37.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of non-traumatic fractures across the life span.
- 38.0 Demonstrate a simple depth, simple breadth of knowledge of assessment and management of diseases of the Eyes, Ears, Nose, and Throat across the life span.
- 39.0 Demonstrate a fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure across the life span.
- 40.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of the trauma patient across the life span.
- 41.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of bleeding across the life span.
- 42.0 Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span.
- 43.0 Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span.
- 44.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span.
- 45.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span.
- 46.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of head, facial, neck, and spine trauma across the life span.

- 47.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of nervous system trauma across the life span.
- 48.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of trauma patients with special considerations across the life span.
- 49.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of environmental emergencies across the life span.
- 50.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the pathophysiology, assessment, and management of multi-system trauma and blast injuries across the life span.
- 51.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the obstetric patient within the scope of practice of the EMT.
- 52.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the newborn and neonatal patient within the scope of practice of the EMT.
- 53.0 Demonstrate a fundamental depth, fundamental breath of knowledge of the management of the pediatric patient within the scope of practice of the EMT.
- 54.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the geriatric patient within the scope of practice of the EMT.
- 55.0 Demonstrate a simple depth, simple breadth of knowledge of management of the patient with special challenges across the life span.
- 56.0 Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport.
- 57.0 Demonstrate a fundamental depth, fundamental breadth of knowledge of establishing and working within the incident management system.
- 58.0 Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident.
- 59.0 Demonstrate a simple depth, simple breadth of knowledge of safe air medical operations and criteria for utilizing air medical response.
- 60.0 Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools.
- 61.0 Demonstrate a simple depth, simple breadth of knowledge 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 knowledge 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
Career Certificate Program 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: Demonstrate a simple depth, foundational breadth of knowledge 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 (EMR, EMT, and PM) 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 and differences between certification and licensure for the EMS professional 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: Demonstrate a simple depth, simple breadth of knowledge 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 of assessing and treating 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: Demonstrate a fundamental depth, foundational breadth of knowledge 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 and equipment the EMT should take for personal protection from airborne and blood borne pathogens and communicable disease.
03.04	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.
03.05	Discuss the steps the EMT should take when approaching a family confronted with death and dying.
03.06	Recognize the warning signs of personal stress and discuss the strategies and resources available for EMTs to utilize.
03.07	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.08	Discuss the guidelines and safety precautions to be followed when lifting and moving patients and equipment.
03.09	Discuss patient positioning in common emergency situations.
03.10	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.11	Define “infectious disease” and “communicable disease.”
03.12	Describe the routes of transmission and associated risks for infectious disease.
03.13	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.14	Explain how immunity to infectious diseases is acquired.
03.15	Explain post exposure management of exposure to patient blood or body fluids, including proper notification documentation.
03.16	Describe the components of physical fitness and mental wellbeing.
03.17	Identify personal health practices and environmental factors, which affect physical, mental, and emotional wellbeing.
03.18	Discuss complementary and alternative health practices.
03.19	Explain the basic concepts of positive self-image, wellness and stress.
03.20	Discuss the need for a wellness and stress control plan that can be used in personal and professional life.
03.21	Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture’s MyPlate food guide (www.choosemyplate.gov)).
03.22	Demonstrate safe behaviors in the proper use of medical equipment.
03.23	Explain the theory of root- cause analysis.
03.24	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.

03.25	Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.
03.26	Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
03.27	Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	Documentation: Demonstrate a fundamental depth, foundational breadth of knowledge of the principles of medical documentation and report writing. – The student will be able to:
04.01	Discuss 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 electronic communication to access and distribute data.
04.05	Describe the use and importance of properly 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	Demonstrate completion of a patient care report for a medical and trauma patient.
05.0	EMS System Communication: Demonstrate a simple depth, simple breadth of knowledge 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 verbal patient report that would be given to the staff at a receiving facility.
05.07	Perform a brief, organized verbal report that would be given during transfer of care at an incident scene.

06.0	Therapeutic Communication: Demonstrate a simple depth, simple breadth of knowledge of the principles of therapeutic communication. – The student will be able to:
06.01	Describe principles of therapeutic and effective communication with patients.
06.02	Discuss basic speaking and active listening skills.
06.03	Recognize the importance of patient/client educations regarding healthcare.
06.04	Discuss 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	Discuss 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	Discuss 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: Demonstrate a fundamental depth, foundational breadth of knowledge of medical legality and ethics. – The student will be able to:
07.01	Discuss the rational, importance, and limitations of patient autonomy.
07.02	Differentiate between expressed, implied and involuntary consent.
07.03	Discuss the methods of obtaining consent and procedures for minors.
07.04	Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
07.05	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.06	Explain the importance, necessity and legality of patient confidentiality.
07.07	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.08	Discuss State of Florida and Federal special reporting situations including:
07.08.01	abuse
07.08.02	sexual assault
07.08.03	gunshot and knife wounds

07.08.04	communicable disease
07.08.05	animal Bites
07.09	Differentiate between civil tort and criminal actions.
07.10	Discuss the elements of negligence and defenses/protections from liability.
07.11	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.12	Define ethics and morality and discuss their implication for the EMT.
07.13	Discuss Florida legislation such as:
07.13.01	Baker Act (FS 394.451)
07.13.02	Marchman Act (FS 397.601 and FS 397.675)
07.13.03	Emergency Examination and Treatment of Incapacitated Persons Act (FS 401.445)
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concepts and limitations 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 a fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. – The student will be able to:
08.01	Identify 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	Describe 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
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	Name and identify the location of the bones of the axial and appendicular skeleton.
08.10	Describe the classification and types of joints.
08.11	Discuss the mechanisms of breathing including:
08.11.01	mechanical ventilation
08.11.02	pulmonary volumes
08.11.03	dead space
08.11.04	lung compliance
08.12	Explain the diffusion of gases in external and internal respiration.
08.13	Describe oxygen and carbon dioxide transport in the blood.
08.14	Describe nervous and chemical mechanisms that regulate respirations.
08.15	Discuss respiration and acid-base balance.
08.16	Discuss the hemodynamics of blood pressure.
08.17	Discuss the role of nutrition, metabolism and body temperature on body function.
08.18	Describe the causes, advantages, and disadvantages of a fever.

08.19	Discuss the hypothalamus functions as the thermostat in the body.
09.0	Medical Terminology: Demonstrate a fundamental knowledge in the use of medical terminology. – 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 a fundamental knowledge of the causes and pathophysiology 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 of respiratory failure and respiratory and cardiac arrest.
10.04	Understand shock, including the pathophysiology, causes, and the signs and symptoms associated with the various types of shock.
10.05	Discuss the variations in the pathophysiology of shock across the life span.
11.0	Life Span Development: Demonstrate a 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 across the life span.
12.0	Public Health: Demonstrate a 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	Discuss basic concepts of epidemiology.
12.04	Discuss ways of EMS involvement in injury prevention.
12.05	Identify areas of need for prevention programs in the community.
13.0	Principles of Pharmacology: Demonstrate a simple depth, simple breadth of knowledge of pharmacology, medication safety, and medication types used during an emergency. –The student will be able to:
13.01	Explain the “rights” of medication administration and describe how each one related to EMS.
13.02	Discuss and differentiate the various medication forms and the appropriate routes 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	class
13.04.02	actions
13.04.03	contraindications
13.04.04	side effects
13.04.05	dose
13.04.06	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	Emergency Medications: Demonstrate a fundamental depth, simple breadth of knowledge of emergency medications within the scope of practice of the EMT. – The student will be able to:
14.01	State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction :
14.01.01	class
14.01.02	generic and trade names
14.01.03	actions
14.01.04	indication
14.01.05	contraindications
14.01.06	complications
14.01.07	routes of administration
14.01.08	side effects
14.01.09	interactions
14.01.10	Doses of medications
14.02	Discuss the forms in which the medications may be found.

14.03	Demonstrate the steps in properly inspecting each type of medication.
14.04	Discuss the difference between administration versus assistance of patient medications.
15.0	Airway Management: Demonstrate a fundamental depth, foundational breadth of knowledge of airway management across the life span within the scope of practice of the EMT. – The student will be able to:
15.01	Review the structures and functions of the respiratory system.
15.02	Describe appropriate airway management for a patient with or without adequate breathing.
15.03	Describe indications for and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
15.04	Define, identify and describe the following:
15.04.01	tracheostomy
15.04.02	laryngectomy
15.04.03	stoma
15.04.04	tracheostomy tube
15.05	Describe the special considerations in airway management for the pediatric patient.
15.06	Demonstrate the techniques of suctioning.
15.07	Demonstrate relief of FBAO.
15.08	Demonstrate how to insert an oral and nasal -airway adjunct.
15.09	Demonstrate how to insert both esophageal and supra-glottic airways.
16.0	Respirations: Demonstrate a fundamental depth, foundational breadth of knowledge of respiration. – The student will be able to:
16.01	Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc.).
16.02	Describe the oxygenation process.
16.03	Explain both external and internal respiration process.
16.04	Discuss the various pathophysiologies of the respiratory system.
16.05	Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
16.06	Describe the following regarding supplemental oxygen delivery devices:
16.06.01	indications
16.06.02	contraindications
16.06.03	advantages
16.06.04	disadvantages
16.06.05	complications

	16.06.06	liter flow range
	16.06.07	concentration of delivered oxygen
	16.06.08	procedures
	16.06.09	purpose
	16.06.10	components
16.07	Review the anatomy and physiology of the respiratory system including:	
	16.07.01	control of respirations
	16.07.02	mechanics of respiration
	16.07.03	pulmonary ventilation
	16.07.04	oxygenation
	16.07.05	mechanical ventilation
16.08	Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.	
16.09	Demonstrate the correct operation of oxygen tanks and regulators.	
16.10	Demonstrate the use of high, medium, low, and variable concentration oxygen delivery devices for all age groups.	
16.11	Discuss the use of an oxygen humidifier and the requirements needed for its use.	
16.12	Discuss the differences between negative pressure and positive pressure ventilation.	
17.0	Artificial Ventilations: Demonstrate a fundamental depth, foundational breadth of knowledge of assessment and management utilizing ventilation across the life span. – The student will be able to:	
	17.01	Demonstrate how to ventilate a patient with a pocket mask.
	17.02	Demonstrate the safe and effective ventilation for a patient with a BVM for one or two rescuers using oral-nasal adjuncts with appropriate airway positioning.
	17.03	Discuss the signs of adequate and inadequate ventilation using the BVM.
	17.04	Describe the steps involved in performing a comprehensive assessment of ventilations.
	17.05	Demonstrate how to ventilate a patient with a stoma.
	17.06	Demonstrate the use of various devices used in the assessment of supra-glottic airway placement.
	17.07	Describe the following for a patient with an automatic transport ventilator (ATV):
	17.07.01	indications
	17.07.02	contraindications
	17.07.03	advantages
	17.07.04	disadvantages
	17.07.05	complications
	17.07.06	technique for ventilating
17.08	Describe the following for a patient with a CPAP:	

	17.08.01	indications
	17.08.02	contraindications
	17.08.03	advantages
	17.08.04	disadvantages
	17.08.05	complications
	17.08.06	technique for ventilating
18.0	Scene Size-Up: Demonstrate a fundamental depth, foundational breadth of knowledge of scene management and multiple patient situations. – The student will be able to:	
	18.01	Recognize and describe hazards/potential hazards at the scene.
	18.02	Discuss common mechanisms of injury/nature of illness.
	18.03	Discuss the priority considerations for multiple-patient situations.
	18.04	Explain why it is important for the EMT to anticipate and determine the need for additional or specialized resources.
	18.05	Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.
	18.06	Discuss the minimum standard precautions that should be followed and PPE that should be worn as appropriate.
	18.07	Discuss special considerations for dealing with a violent scene.
	18.08	Explain the rationale for crew members to evaluate scene safety prior to entering.
	18.09	Explain how patient situations affect your evaluation of mechanism of injury or illness.
19.0	Primary Assessment: Demonstrate a fundamental depth, simple breadth of knowledge of the primary assessment for all patient situations. – The student will be able to:	
	19.01	Summarize the elements of a general impression of the patient.
	19.02	Explain the reason for performing a primary assessment.
	19.03	Discuss and demonstrate methods of assessing level of responsiveness using AVPU.
	19.04	Discuss and demonstrate methods of assessing the airway and providing airway care across the life span.
	19.05	Describe and demonstrate methods used for assessing if a patient is breathing across the life span.
	19.06	Differentiate between a patient with adequate and inadequate breathing.
	19.07	Describe and demonstrate the methods used to obtain a pulse across the life span.
	19.08	Discuss and demonstrate assessing the patient for external bleeding.
	19.09	Describe and demonstrate the assessment and interpretation of skin color, temperature, moisture and capillary refill across the life

	span.
	19.10 Explain the reasons prioritizing a patient for care and transport.
	19.11 Describe when it is appropriate to expose the patient completely.
	19.12 Differentiate between critical life-threatening, potentially life- threatening, and non-life-threatening patient presentations.
20.0	History-Taking: Demonstrate a fundamental depth, foundational breadth of knowledge of the components of history taking. – The student will be able to:
	20.01 Determine and investigate the chief complaint.
	20.02 Describe components of the patient history.
	20.03 Explain the importance of obtaining a SAMPLE and OPQRST history.
	20.04 Acknowledge the feelings patients experience during assessment.
	20.05 Discuss the value of obtaining a family and social history.
	20.06 Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
21.0	Secondary Assessment: Demonstrate a fundamental depth, foundational breadth of knowledge of techniques used for a secondary assessment. – The student will be able to:
	21.01 Discuss the components and techniques of the physical exam and skills involved.
	21.02 Discuss the indications for performing: 21.02.01 rapid assessment 21.02.02 focused exam 21.02.03 head to toe exam
	21.03 Demonstrate: 21.03.01 rapid exam 21.03.02 focused exam 21.03.03 head to toe exam
	21.04 Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
	21.05 Describe and demonstrate the importance of obtaining a baseline set of vital signs.
	21.06 Discuss blood pressure ranges across the life span.
22.0	Monitoring Devices: Demonstrate a simple depth, simple breath of knowledge of monitoring devices within the scope of practice of the EMT. – The student will be able to:
	22.01 Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies.

	22.01.01	pulse oximetry
	22.01.02	glucometry
	22.01.03	capnography
	22.01.04	noninvasive BP monitoring
	22.01.05	thermometry
	22.01.06	telemetry
	22.02	Demonstrate proper placement of a cardiac monitor and diagnostic ECG leads.
23.0	Reassessment:	Demonstrate a fundamental depth, foundational breadth of knowledge of how and when to perform a reassessment for all patient situations. – The student will be able to:
	23.01	Describe the components of reassessment and demonstrate the skills involved.
	23.02	Discuss the reasons for repeating the primary assessment as part of the reassessment.
	23.03	Explain trending assessment components and its value to other health professionals who assume care of the patient.
	23.04	Demonstrate the reassessment of patients across the life span.
24.0	Medical Overview:	Demonstrate a simple depth, foundation breadth of knowledge of pathophysiology, assessment and management of medical complaints. – The student will be able to:
	24.01	Identify factors that complicate patient assessment:
	24.01.01	scene safety
	24.01.02	environmental factors
	24.01.03	chief complaint
	24.01.04	EMT preconceptions
	24.01.05	distracting injuries
	24.01.06	tunnel vision
	24.01.07	patient cooperation
	24.01.08	EMT attitude
	24.02	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
25.0	Neurology:	Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of neurologic disorders/emergencies across the life span. – The student will be able to:
	25.01	Review the anatomy and physiology of the nervous system.
	25.02	Describe the pathophysiology of the following neurologic disorders:
	25.02.01	altered mental status
	25.02.02	stroke
	25.02.03	transient ischemic attack
	25.02.04	headache
	25.02.05	seizures
	25.02.06	syncope

25.03	Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes, and transient ischemic attacks and their similarities and differences.
25.04	Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
25.05	Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
25.06	Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish harmless headaches from something more serious.
25.07	Define “altered mental status” and identify the possible causes.
25.08	Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include:
25.08.01	strokes
25.08.02	headaches
25.08.03	seizures
25.08.04	altered mental status
25.09	Discuss the transport of the stroke patient to the appropriate treatment center.
26.0	Abdominal and Gastrointestinal Disorder: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of abdominal and gastrointestinal disorders/emergencies across the life span. – The student will be able to:
26.01	Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
26.02	Define and describe the pathophysiology of the following abdominal and gastrointestinal disorders:
26.02.01	abdominal pain
26.02.02	acute abdomen
26.02.03	peritonitis
26.02.04	appendicitis
26.02.05	pancreatitis
26.02.06	cholecystitis
26.02.07	gastrointestinal bleeding
26.02.08	esophageal varices
26.02.09	gastroenteritis
26.02.10	ulcers
26.02.11	intestinal obstruction
26.02.12	hernia
26.02.13	abdominal aortic aneurysm
26.03	Identify the signs and symptoms of common GI disorders.
26.04	Describe and demonstrate the assessment and management of the patient with various gastrointestinal emergencies.
26.05	Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.

27.0	Immunology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of immunology disorders/emergencies across the life span. – The student will be able to:
27.01	Define and differentiate allergic reaction and anaphylaxis.
27.02	Describe the pathophysiology of the following immunology disorders: 27.02.01 allergic reaction 27.02.02 anaphylaxis 27.02.03 anaphylactic shock
27.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
27.04	Review the following for the epinephrine auto-injector: 27.04.01 generic and trade names 27.04.02 medication forms 27.04.03 dose 27.04.04 administration 27.04.05 action 27.04.06 contraindications
27.05	Demonstrate the use of epinephrine auto-injector.
27.06	Review the anatomy and physiology of the organs and structures related to anaphylaxis.
27.07	Describe the incidence, morbidity and mortality of anaphylaxis.
27.08	Recognize the signs and symptoms related to anaphylaxis.
27.09	Describe the risk factors for and prevention of anaphylaxis and appropriate patient education.
27.10	Discuss common antigens most frequently associated with anaphylaxis.
27.11	Explain the importance of separating the patient from the allergen when possible.
28.0	Infectious Disease: Demonstrate a simple depth, simple breadth of knowledge of the assessment and management of a patient who may have an infectious disease across the life span. – The student will be able to:
28.01	Discuss the causes of infectious diseases
28.02	Describe the pathophysiology of infectious diseases of significant public health concern.
28.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.
28.04	Discuss mandatory notification to state or federal agencies of various diseases.
28.05	Identify patients with risk factors for infectious disease.
28.06	Explain the principles and practices of infection control in prehospital care.

28.07	Describe and discuss the rationale for the various types of PPE.
28.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
28.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.
28.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.
28.11	Demonstrate the ability to comply with body substance isolation guidelines.
28.12	Discuss the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS)
29.0	Endocrine Disorders: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of endocrine disorders/emergencies across the life span. – The student will be able to:
29.01	Review the anatomy and physiology of the endocrine system and its main function in the body.
29.02	Describe the pathophysiology and signs and symptoms of the following endocrine disorders:
29.02.01	insulin dependent Diabetes Mellitus
29.02.02	non-insulin dependent Diabetes Mellitus
29.02.03	hypoglycemia
29.02.04	hyperglycemia
29.02.05	Diabetic Ketoacidosis(DKA)
29.02.06	Hyperglycemic Hyperosmolar Non-ketotic Syndrome (HHNS)
29.03	Define and differentiate between Type I and Type II Diabetes.
29.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
29.05	Review the following for oral glucose:
29.05.01	generic and trade names
29.05.02	medication forms
29.05.03	dose
29.05.04	administration
29.05.05	action
29.05.06	contraindications
29.06	Demonstrate the steps of using a glucometer device and administering oral glucose.
29.07	Describe and demonstrate the assessment and the management of the patient experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
29.08	Discuss the general assessment findings associated with endocrinologic emergencies.
30.0	Psychiatric: Demonstrate a fundamental depth, foundational breadth of knowledge regarding the assessment and management of psychiatric emergencies across the life span. – The student will be able to:

30.01	Differentiate among behavior, psychiatric disorders and behavioral emergencies
30.02	Discuss common psychiatric disorders and behavioral emergencies.
30.03	Discuss the general factors that may cause an alteration in a patient's behavior.
30.04	Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
30.05	Manage a behavioral emergency scenario applying knowledge of medical/legal Florida Statutes.
30.06	Describe and demonstrate the assessment and management of the patient experiencing a behavioral or psychiatric emergency.
30.07	Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
30.08	Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric emergencies.
30.09	Describe and demonstrate methods of restraint that may be used in the management of a patient with a behavioral emergency.
30.10	Explain the importance of provider behavior and communication in the care of a patient with a behavioral emergency.
31.0	Cardiovascular: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of cardiovascular emergencies across the life span. – The student will be able to:
31.01	Review the basic anatomy and physiology of the cardiovascular system.
31.02	Describe the pathophysiology and signs and symptoms of the following cardiovascular disorders:
31.02.01	acute coronary syndrome
31.02.02	angina pectoris
31.02.03	thromboembolism
31.02.04	myocardial infarction
31.02.05	hypertensive emergencies
31.02.06	aortic aneurysm/dissection
31.02.07	left and right sided heart failure
31.02.08	cardiogenic shock
31.02.09	cardiac arrest
31.03	Describe and demonstrate the assessment and management of the patient experiencing a cardiac emergency.
31.04	Discuss the indications and contraindications for automated external defibrillation (AED).
31.05	Explain the impact of age and weight on defibrillation.
31.06	Discuss the position of comfort for patients with various cardiac emergencies.
31.07	Explain the rationale for early defibrillation.

31.08	Discuss and differentiate among various types of external defibrillators.
31.09	Discuss and differentiate among the various types of implanted cardiac devices.
31.10	Understand the importance of maintenance and operators check list for AED's.
31.11	Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
31.12	Explain the role medical direction plays in the use of automated external defibrillation.
31.13	Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
31.14	Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
31.15	Demonstrate the assessment and documentation of patient response to nitroglycerin.
31.16	Discuss the purpose and use of CPR assist devices.
32.0	Toxicology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of toxicological (poisoning and overdose) emergencies across the life span. – The student will be able to:
32.01	Define and differentiate among toxicology, poisoning, and overdose.
32.02	Describe the pathophysiology and signs and symptoms of the following toxicological emergencies, including but not limited to:
32.02.01	food poisoning
32.02.02	carbon monoxide poisoning
32.02.03	cyanide poisoning
32.02.04	exposure to acid or alkaline substances
32.02.05	exposure to hydrocarbons
32.02.06	methanol ingestion
32.02.07	isopropanol ingestion
32.02.08	ethylene glycol ingestion
32.02.09	exposure to poisonous plants
32.02.10	drug withdrawal
32.02.11	alcoholic syndrome
32.02.12	withdrawal syndrome (including delirium tremens)
32.02.13	illicit drug use
32.02.14	medication overdose
32.02.15	opioid overdose
32.02.16	organa phosphate overdose
32.03	Discuss various ways that toxins enter the body.
32.04	Discuss and demonstrate the assessment and management for the patient with a toxicological emergency.
32.05	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.

32.06	Explain the rationale for contacting medical direction early in the prehospital management of a patient with a toxicological emergency.
32.07	Review the following for Narcan (naloxone):
32.07.01	generic and trade names
32.07.02	medication forms
32.07.03	dose
32.07.04	administration
32.07.05	action
32.07.06	contraindications
33.0	Respiratory: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span – The student will be able to:
33.01	Review the basic anatomy and physiology of the respiratory system.
33.02	Describe the pathophysiology and signs and symptoms of the following respiratory disorders:
33.02.01	Chronic Obstructive Pulmonary Disease
33.02.02	Asthma
33.02.03	Pulmonary Edema
33.02.04	Spontaneous Pneumothorax
33.02.05	Hyperventilation Syndrome
33.02.06	Cystic Fibrosis
33.02.07	Pulmonary Embolism
33.02.08	Pneumonia
33.02.09	Viral Respiratory Infections
33.02.10	Poisonous Exposures
33.02.11	Bacterial respiratory infections
33.03	Discuss signs of adequate air exchange.
33.04	Discuss the signs and symptoms of a patient across the continuum from respiratory distress to failure.
33.05	Describe and demonstrate the assessment and management of the patient with a respiratory emergency.
33.06	Review the following for the metered-dose inhalers and small volume nebulizers for medications within the scope of practice of the EMT:
33.06.01	generic name
33.06.02	medication forms
33.06.03	dose
33.06.04	administration
33.06.05	action
33.06.06	indications
33.06.07	contraindications
33.07	Describe and demonstrate the steps in facilitating the use of an inhaler and a small volume nebulizer.

33.08	Differentiate between upper and lower airway obstruction.
33.09	Demonstrate assessment and interpretation of normal and abnormal lung and breath sounds.
34.0	Hematology: Demonstrate a simple depth, simple breadth of knowledge of the assessment, and management of hematology disorders across the life span. –The student will be able to:
34.01	Review the compositions and functions of blood and plasma.
34.02	Describe the pathophysiology of the following hematology disorders:
34.02.01	Anemia
34.02.02	Sickle Cell Anemia / Sickle Cell Crisis
34.02.03	Hemophilia
34.03	Describe and demonstrate the assessment and the management of the patient with a hematological disorder.
35.0	Genitourinary /Renal: Demonstrate a simple depth, simple breath of knowledge of the assessment and management of genitourinary/ renal emergency across the life span. – The student will be able to:
35.01.01	Review the basic anatomy and physiology of the genitourinary and renal systems.
35.02	Describe the pathophysiology and signs and symptoms of the following genitourinary/ renal disorders:
35.02.01	urinary tract infection
35.02.02	kidney stones
35.02.03	kidney failure
35.03	Discuss the basic principles of kidney dialysis.
35.04	Discuss the recognition and complications of urinary catheters.
35.05	Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
36.0	Gynecology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of gynecologic emergencies across the life span. – The student will be able to:
36.01	Review the basic anatomy and physiology of the female reproductive system.
36.02	Describe the pathophysiology and signs and symptoms of the following gynecologic disorders and emergencies, including but not limited to:
36.02.01	sexual assault
36.02.02	non-traumatic vaginal bleeding
36.02.03	menstrual pain
36.02.04	ovarian cyst
36.02.05	endometritis
36.02.06	endometriosis
36.02.07	pelvic inflammatory disease
36.02.08	Sexually Transmitted Disease
36.03	Describe and demonstrate the assessment and management of the patient experiencing a gynecologic emergency.

36.04	Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and assessment findings/presentations.
36.05	Discuss the professional and psychological importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
36.06	Discuss the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
37.0	Non-Traumatic Musculoskeletal Disorders: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of non-traumatic fractures across the life span. – The student will be able to:
37.01	Review the basic anatomy and physiology of the musculoskeletal system.
37.02	Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.
38.0	Diseases of the Eyes, Ears, Nose, and Throat: Demonstrate a simple depth, simple breadth of knowledge of assessment and management of diseases of the Eyes, Ears, Nose, and Throat across the life span –The student will be able to:
38.01	Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat, including epistaxis.
39.0	Shock and Resuscitation: Demonstrate a fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure across the life span. – The student will be able to:
39.01	Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
39.02	Review causes and pathophysiology of respiratory failure and arrest.
39.03	Review causes and pathophysiology of cardiac failure or arrest.
39.04	Discuss the various types and degrees of shock.
39.05	Discuss post resuscitation management.
39.06	Explain the system components of CPR, the links in the AHA chain of survival and how each relates to patient survival.
39.07	Define and differentiate between compensated and decompensated shock.
39.08	Discuss the importance of teamwork in the successful management of the critical patient.
39.09	Demonstrate how to perform one and two rescuer CPR, adult, child, and infant.
39.10	Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child, and infant patient.
39.11	Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition.
39.12	Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
40.0	Trauma Overview: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of the trauma patient across the life span. – The student will be able to:

40.01	Discuss pathophysiology of the trauma patient.
40.02	Discuss the components of a comprehensive trauma systems and levels of trauma centers.
40.03	Describe the considerations for different transportation modes to a trauma center.
40.04	Discuss the kinematics of blunt and penetrating trauma.
40.05	Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
40.06	Demonstrate the application of the State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.).
40.07	Discuss the National Trauma Triage Protocol of injured Patients.
40.08	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
40.09	Identify the need for rapid intervention transport of the trauma patient.
41.0	Bleeding: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of bleeding across the life span. – The student will be able to:
41.01	Review the anatomy and physiology of the circulatory system.
41.02	Discuss the different types of bleeding and classes of hemorrhage.
41.03	Review signs and symptoms of shock (hypo-perfusion).
41.04	Demonstrate effective hemorrhage control to include application of a tourniquet.
41.05	Review the pathophysiology of hemorrhagic shock.
41.06	Recognize the need for rapid transport for patients that are bleeding and showing signs of shock (hypo-perfusion).
41.07	Describe and demonstrate the assessment and management of a patient with hemorrhagic shock.
41.08	Discuss the possible complications of an improperly applied dressing, bandage, tourniquet, and hemostatic agents.
42.0	Chest Trauma: Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment and management of chest trauma across the life span. –.The student will be able to:
42.01	Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
42.02	Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
42.03	Discuss the pathophysiology, signs and symptoms, and MOI of myocardial injuries, including the following:
42.03.01	pericardial tamponade
42.03.02	myocardial contusion
42.03.03	myocardial rupture

	42.03.04	commotio cordis
	42.03.05	aortic sheerer
42.04	Discuss the pathophysiology, signs and symptoms, and MOI of specific chest wall injuries, including the following:	
	42.04.01	rib fracture
	42.04.02	flail segment
	42.04.03	sternal fracture
42.05	Describe and demonstrate the assessment and management of chest trauma.	
43.0	Abdominal and Genitourinary Trauma: Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment and management of abdominal and genitourinary trauma across the life span. – The student will be able to:	
43.01	Review the anatomy and physiology of the abdominal cavity and genitourinary system.	
43.02	Discuss the pathophysiology, signs and symptoms, and MOI for abdominal trauma including hollow and solid injuries.	
43.03	Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury/trauma.	
44.0	Orthopedic Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span. – The student will be able to:	
44.01	Review the anatomy and physiology of the musculo-skeletal system.	
44.02	Discuss pathophysiology, signs and symptoms, and MOI for orthopedic trauma.	
44.03	Discuss the different types of orthopedic trauma including fracture classifications.	
44.04	Explain the rationale for stabilization of an injured extremity.	
44.05	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic trauma.	
44.06	Discuss the following management techniques:	
	44.06.01	heat therapy
	44.06.02	cold therapy
	44.06.03	splinting
44.07	List the six “P’s” of orthopedic injury assessment.	
44.08	Discuss the need for assessment of distal pulses, motor, and sensation before and after splinting.	
44.09	Review age-associated changes in the bones.	
44.10	Discuss the proper procedures to package an amputated body part for replantation.	
44.11	Explain the rationale for splinting at the scene versus load and go.	
44.12	Demonstrate the proper use of various splinting materials and devices to include improvised and traction splints.	

45.0	Soft Tissue Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span. – The student will be able to:
45.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.
45.02	Describe the pathophysiology, signs and symptoms, and MOI of soft tissue trauma.
45.03	Describe and demonstrate the assessment and management of various soft tissue injuries.
45.04	Identify types of burn injuries, including:
45.04.01	thermal burn
45.04.02	chemical burn
45.04.03	electrical burn
45.04.04	radiation exposure
45.05	Describe the depth classifications of burn injuries, including:
45.05.01	superficial burn
45.05.02	partial-thickness burn
45.05.03	full-thickness burn
45.05.04	other depth classifications
45.06	Describe and demonstrate methods for determining body surface area percentage of a burn injury including the “rule of nines,” the “rule of palms,” and other methods.
45.07	Explain how the seriousness of a burn is related to its depth and percent of body surface area (BSA) involved.
45.08	Review the various management techniques for hemorrhage control.
45.09	Differentiate among the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
45.10	Demonstrate the assessment and management of specific burn injuries including:
45.10.01	thermal
45.10.02	inhalation
45.10.03	chemical
45.10.04	electrical
45.10.05	radiation
46.0	Head, Facial, Neck, and Spine Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of head, facial, neck and spine trauma across the life span. – The student will be able to:
46.01	Review the anatomy and physiology of the head, face, neck and spine.
46.02	Describe the pathophysiology, signs and symptoms, and MOI for head, face, neck, and spine trauma.

46.03	Describe and demonstrate the assessment and management of a patient with the following traumas to the head, face, neck, and spine:
46.03.01	penetrating neck trauma
46.03.02	laryngotracheal injury
46.03.03	skull fracture
46.03.04	facial fracture
46.03.05	eye injury (foreign body)
46.03.06	dental trauma
46.04	Recognize and manage life threats due to face, head, neck, and spine trauma.
46.05	Discuss and demonstrate the utilization of the Glasgow Coma Scale.
47.0	Nervous System Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of nervous system trauma across the life span. – The student will be able to:
47.01	Review the anatomy and physiology of the nervous system.
47.02	Discuss the pathophysiology, signs and symptoms, and MOI for brain and spinal cord trauma.
47.03	Describe and demonstrate the assessment and management of a patient with a brain and/or spinal cord trauma.
47.04	Discuss the rationale and potential complications of spinal motion restriction of the entire spine when a cervical spine injury is suspected.
47.05	Given a scenario, discuss whether or not to remove a helmet prior to transport of a patient.
47.06	Demonstrate various methods for stabilization and removal of a helmet.
47.07	Discuss documentation of assessment before, during, and after spinal motion restriction.
48.0	Special Considerations in Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of trauma patients with special considerations across the life span. – The student will be able to:
48.01	Review the anatomy and physiology for the following trauma patients:
48.01.01	pregnant
48.01.02	pediatric
48.01.03	geriatric
48.02	Discuss the pathophysiology, signs and symptoms, and MOI of trauma in the following patients:
48.02.01	pregnant
48.02.02	pediatric
48.02.03	geriatric
48.03	Discuss and demonstrate unique assessment and management considerations for the following trauma patients:
48.03.01	pregnant
48.03.02	pediatric

	48.03.03	geriatric
	48.03.04	cognitively impaired
49.0	Environmental Emergencies: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of environmental emergencies across the life span. – The student will be able to:	
49.01	Define drowning and discuss its incidence, risk factors and prevention.	
49.02	Discuss the pathophysiology, signs and symptoms, 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 injuries
	49.02.05	diving injuries
	49.02.06	lightning (electrical) injury
	49.02.07	high altitude illness
	49.02.08	radiation exposure
49.03	Describes and demonstrate the assessment and management for a patient with the following:	
	49.03.01	drowning and water related incidents
	49.03.02	temperature-related illness
	49.03.03	bites and envenomation
	49.03.04	dysbarism such as high-altitude injuries
	49.03.05	diving injuries
	49.03.06	lightning (electrical) injury
	49.03.07	high altitude illness
	49.03.08	radiation exposure
49.04	Discuss the fundamental principles of the gas laws including: Boyle's, Dalton, Henry and Charles.	
49.05	Discuss scene management and provider safety considerations for a variety of environmental emergencies.	
49.06	Explain the five ways a body can lose heat.	
49.07	Discuss potentially life threatening venomous species of insects, spiders and snakes in the U.S.	
50.0	Multi-Systems Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of the pathophysiology, assessment, and management of multi-system trauma and blast injuries across the life span. – The student will be able to:	
50.01	Discuss the pathophysiology, signs and symptoms, and MOI of multi-system trauma and blast injuries.	
50.02	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.0	Obstetrics: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the obstetric patient within the scope of practice of the EMT. – The student will be able to:	
51.01	Identify and describe the anatomical and the physiological changes during pregnancy.	

51.02	Define the stages of labor and discuss how to assess them.
51.03	Differentiate between cephalic and abnormal delivery.
51.04	Describe the management of a patient with pre-delivery emergencies.
51.05	Discuss and demonstrate the patient care measures for all stages of labor in a cephalic delivery for the mother and the newborn.
51.06	Describe the management of the mother post-delivery.
51.07	Discuss and demonstrate the patient care measures for all stages of labor in abnormal deliveries for the mother and the newborn.
51.08	Describe the procedures for handling complications of delivery.
51.09	Describe special considerations when meconium is present in amniotic fluid or during delivery.
51.10	Identify the factors that lead to premature birth and low birth weight newborns.
51.11	Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia, eclampsia, and high risk.
52.0	Neonatal Care: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the newborn and neonatal patient within the scope of practice of the EMT. – The student will be able to:
52.01	Discuss and demonstrate assessment and management considerations of a neonate.
52.02	Define the term neonate.
52.03	Describe special patient care considerations of a premature baby.
52.04	Calculate the Apgar score given various newborn situations.
52.05	Discuss the common signs when ventilatory assistance is appropriate for a neonate.
52.06	Discuss and demonstrate the steps in resuscitation of a neonate.
52.07	Review the signs of hypovolemia in a newborn.
52.08	Discuss the effects maternal narcotic usage has on the newborn.
52.09	Discuss the management/treatment plan for vomiting in the neonate.
52.10	Discuss the assessment findings associated with common birth injuries in the neonate.
53.0	Pediatrics: Demonstrate a fundamental depth, fundamental breath of knowledge of management of the pediatric patient within the scope of practice of the EMT. – The student will be able to:
53.01	Review the anatomy, physiology and pathophysiology differences of patients.

53.02	Discuss the differences in approaching and assessing patients.
53.03	Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
53.04	Describe the selection of appropriate airway adjuncts and ventilation devices.
53.05	Discuss complications of improper utilization of airway adjuncts and ventilation devices.
53.06	Describe the common causes, assessment and management of respiratory distress, failure, or arrest.
53.07	Discuss the common causes, assessment and management of hypo-perfusion.
53.08	Discuss the common causes, assessment and management of cardiopulmonary arrest.
53.09	Describe the common causes, assessment and management of altered level of consciousness.
53.10	Describe the common causes, assessment and management of trauma.
53.11	Describe the common causes, assessment and management of neurological emergencies.
53.12	Demonstrate proper technique for administering blow-by oxygen.
53.13	Review proper technique for suctioning.
53.14	Review appropriate use of airway adjuncts and ventilation devices.
53.15	Review age appropriate basic airway clearing maneuvers for a completely obstructed airway.
54.0	Geriatrics: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the geriatric patient within the scope of practice of the EMT. – The student will be able to:
54.01	Define and discuss the term geriatrics.
54.02	Review the anatomy, physiology and pathophysiology of the geriatric patient.
54.03	Discuss common emotional and psychological concerns and conditions of the geriatric patient.
54.04	Discuss the importance of fall prevention with the geriatric patient.
54.05	Describe principles that should be employed when assessing and communicating with the geriatric patient.
54.06	Describe the common causes, assessment, and management of the geriatric patient with a medical, trauma, or psychosocial complaint.
55.0	Patients with Special Challenges: Demonstrate a simple depth, simple breadth of knowledge of the management of the patient with special challenges across the life span. –The student will be able to:
55.01	Discuss the special considerations required when providing emergency care to patients with:
55.01.01	abuse/neglect of vulnerable populations

55.01.02	homelessness
55.01.03	poverty
55.01.04	bariatrics
55.01.05	tech dependent
55.01.06	hospice/terminally ill
55.01.07	tracheostomy
55.01.08	home care
55.01.09	sensory deficit/loss
55.01.10	developmental disability
55.02	Discuss special considerations regarding common medical devices used in the home care of patients with special challenges including:
55.02.01	respiratory devices
55.02.02	cardiac devices
55.02.03	gastro-urinary devices
55.02.04	central & peripheral IV catheters
55.03	Describe home care and the types of patients it serves and the services it encompasses.
55.04	Differentiate between hospice/palliative care and curative care.
55.05	Discuss the role of the EMT as a patient advocate for vulnerable populations.
56.0	Principles of Safely Operating a Ground Ambulance: Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport. – The student will be able to:
56.01	Discuss the importance of performing regular vehicle and equipment inspection.
56.02	Demonstrate how to perform a daily inspection of an ambulance.
56.03	Review the general provisions of Florida laws relating to the operation of the ambulance.
56.04	Discuss the guidelines for operating an ambulance safely during emergency and non-emergency situation/incident.
56.05	Review considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
56.06	Review how to clean and disinfect the ambulance and equipment.
57.0	Incident Management: Demonstrate a fundamental depth, fundamental breadth of knowledge of establishing and working within the incident management system. – The student will be able to:
57.01	Discuss the importance of NIMS (National Incidence Management System) and its functional components.
57.02	Discuss unified command and when it is applicable.
57.03	Describe the role of command and the procedures for transfer of command.

57.04	List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents:
57.04.01	safety
57.04.02	logistics
57.04.03	rehabilitation
57.04.04	staging,
57.04.05	treatment
57.04.06	triage
57.04.07	transportation
57.04.08	extrication/rescue
57.04.09	morgue
57.04.10	communications
57.05	Discuss the physical and psychological signs of critical incident stress.
58.0	Multiple Casualty Incidents: Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident. – The student will be able to:
58.01	Review essential elements of scene size-up when arriving at a potential MCI.
58.02	Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
58.03	Describe the role of the physician at multiple casualty incidents.
58.04	Define triage and describe the principles of triage.
58.05	Describe the START (simple triage and rapid treatment) and JUMP START method of initial triage.
58.06	Describe techniques used to allocate patients to hospitals and track them.
58.07	Discuss and describe the essential equipment to provide logistical support to MCI operations.
58.08	Describe the role of critical incident stress management during and after MCIs.
58.09	Demonstrate the use of local/regional triage tagging system.
59.0	Air Medical: Demonstrate a simple depth, simple breadth of knowledge of safe air medical operations and criteria for utilizing air medical response. –The student will be able to:
59.01	Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
59.02	Describe the capabilities, protocols, and methods for accessing air medical transport.
59.03	Review the advantages and disadvantages of air medical transport.
59.04	Review the conditions/situations in which air medical transport should be considered.
60.0	Vehicle Extrication: Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools. –

The student will be able to:	
60.01	Describe the role of the EMT in patient rescue and vehicle extrication
60.02	Describe personal and patient safety during vehicle extrication.
60.03	Explain the difference between simple access and complex access in vehicle extrication.
60.04	Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
60.05	Discuss the use of simple hand tools used for vehicle extrication.
60.06	Discuss and describe the hazards and safe practices associated with the following vehicle components:
60.06.01	energy absorbing bumpers
60.06.02	air bag/supplemental restraint systems
60.06.03	catalytic converters and conventional fuel systems
60.06.04	stored energy
60.06.05	hybrid-electric vehicles
60.07	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
60.08	Describe the electrical hazards commonly found at highway incidents (above and below ground).
60.09	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
60.10	Explain typical door anatomy and methods to gain access to the patient.
61.0	Hazardous Materials Awareness: Demonstrate a simple depth, simple breadth of knowledge 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	Identify and describe resources for substance identification, decontamination, and treatment information, including but not limited to the following:
61.01.01	poison control center
61.01.02	medical control
61.01.03	material safety data sheets (MSDS),
61.01.04	reference textbooks
61.01.05	computer databases
61.01.06	Computer-Aided Management of Emergency Operations (CAMEO)
61.01.07	CHEMTREC
61.01.08	technical specialists
61.01.09	Agency for toxic substances and disease registry
61.02	Explain primary and secondary contamination risk.
61.03	Review routes of exposure.

61.04	Discuss how the substance and route of contamination alters triage and decontamination methods.
61.05	Explain the common signs, symptoms, and treatment for the following substances: 61.05.01 corrosives 61.05.02 pesticides 61.05.03 chemical asphyxiants 61.05.04 hydrocarbon solvents
61.06	Identify local facilities and resources capable of treating patients exposed to hazardous materials.
61.07	Determine the appropriate level of PPE by considering the following: 61.07.01 types 61.07.02 application 61.07.03 use and limitations 61.07.04 use of chemical compatibility chart
61.08	Explain specific decontamination procedures.
61.09	Discuss the designated HAZMAT control zones (HOT, WARM, and COLD).
61.10	Discuss an emergency two-step decontamination process.
61.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials.
61.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material.
62.0	Mass Casualty Incidents Due to Terrorism and Disaster: Demonstrate a simple depth, simple breadth of knowledge of risks and responsibilities of operating on the scene of a natural or man-made disaster. – The student will be able to:
62.01	Describe the role of the EMT on the scene of a natural or man-made disaster.
62.02	Define the different types of terrorism and provide examples of incidents of each.
62.03	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.
62.04	Discuss the National Terrorism Advisory System.
62.05	Discuss factors to consider when responding to a terrorist situation.
62.06	Review important actions to take at the scene of a terrorist event such as: 62.06.01 scene safety 62.06.02 personal protection 62.06.03 notification procedures 62.06.04 available resources 62.06.05 working with in the command system
62.07	List and describe the main categories of weapons of mass destruction.

62.08 Discuss the different types of chemical agents and their signs and symptoms.

62.09 Review the treatment and management of patients exposed to various types of chemical agents and radiation.

62.10 Review the different types of radiations and their effect on the human body.

62.11 Discuss the use of a nerve agent antidote kit.

**Florida Department of Education
Student Performance Standards**

Program Title: **Emergency Medical Technician –ATD**
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 adjuncts, 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 Varices
	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 statutes:
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	non-traumatic 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 hollow 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, risk 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 hypo-perfusion 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 hypo-perfusion 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 Sudden Unexpected Infant Death Syndrome (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.

It is strongly recommended this program be accredited by Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Standards

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

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

- 28.0 Demonstrate a simple depth, simple breadth of knowledge of the assessment and management of a patient who may have an infectious disease across the life span.
- 29.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of endocrine disorders/emergencies across the life span.
- 30.0 Demonstrate a fundamental depth, foundational breadth of knowledge regarding the assessment and management of psychiatric emergencies across the life span.
- 31.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of cardiovascular emergencies across the life span.
- 32.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of toxicological (poisoning and overdose) emergencies across the life span.
- 33.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span.
- 34.0 Demonstrate a simple depth, simple breadth of knowledge of the assessment, and management of hematology disorders across the life span.
- 35.0 Demonstrate a simple depth, simple breath of knowledge of the assessment and management of genitourinary/ renal emergencies across the life span.
- 36.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of gynecologic emergencies across the life span.
- 37.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of non-traumatic fractures across the life span.
- 38.0 Demonstrate a simple depth, simple breadth of knowledge of assessment and management of diseases of the Eyes, Ears, Nose, and Throat across the life span.
- 39.0 Demonstrate a fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure across the life span.
- 40.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of the trauma patient across the life span.
- 41.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of bleeding across the life span.
- 42.0 Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span.
- 43.0 Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span.
- 44.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span.
- 45.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span.
- 46.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of head, facial, neck, and spine trauma across the life span.

- 47.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of nervous system trauma across the life span.
- 48.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of trauma patients with special considerations across the life span.
- 49.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of environmental emergencies across the life span.
- 50.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the pathophysiology, assessment, and management of multi-system trauma and blast injuries across the life span.
- 51.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the obstetric patient within the scope of practice of the EMT.
- 52.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the newborn and neonatal patient within the scope of practice of the EMT.
- 53.0 Demonstrate a fundamental depth, fundamental breath of knowledge of the management of the pediatric patient within the scope of practice of the EMT.
- 54.0 Demonstrate a fundamental depth, foundational breadth of knowledge of management of the geriatric patient within the scope of practice of the EMT.
- 55.0 Demonstrate a simple depth, simple breadth of knowledge of management of the patient with special challenges across the life span.
- 56.0 Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport.
- 57.0 Demonstrate a fundamental depth, fundamental breadth of knowledge of establishing and working within the incident management system.
- 58.0 Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident.
- 59.0 Demonstrate a simple depth, simple breadth of knowledge of safe air medical operations and criteria for utilizing air medical response.
- 60.0 Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools.
- 61.0 Demonstrate a simple depth, simple breadth of knowledge 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 knowledge 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: Demonstrate a simple depth, foundational breadth of knowledge 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 (EMR, EMT, and PM) 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 and differences between certification and licensure for the EMS professional 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: Demonstrate a simple depth, simple breadth of knowledge 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 of assessing and treating 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: Demonstrate a fundamental depth, foundational breadth of knowledge 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 and equipment the EMT should take for personal protection from airborne and blood borne pathogens and communicable disease.
03.04	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.
03.05	Discuss the steps the EMT should take when approaching a family confronted with death and dying.
03.06	Recognize the warning signs of personal stress and discuss the strategies and resources available for EMTs to utilize.
03.07	Demonstrate good body mechanics while using a stretcher and other patient moving devices.
03.08	Discuss the guidelines and safety precautions to be followed when lifting and moving patients and equipment.
03.09	Discuss patient positioning in common emergency situations.
03.10	Discuss situation that may require the use of medical restraints on the patient and explain guidelines and safety consideration for their use.
03.11	Define “infectious disease” and “communicable disease.”
03.12	Describe the routes of transmission and associated risks for infectious disease.
03.13	Explain the mode of transmission and the steps to prevent/deal with an exposure of hepatitis, meningitis, tuberculosis and HIV.
03.14	Explain how immunity to infectious diseases is acquired.
03.15	Explain post exposure management of exposure to patient blood or body fluids, including proper notification documentation.
03.16	Describe the components of physical fitness and mental wellbeing.
03.17	Identify personal health practices and environmental factors, which affect physical, mental, and emotional wellbeing.
03.18	Discuss complementary and alternative health practices.
03.19	Explain the basic concepts of positive self-image, wellness and stress.
03.20	Discuss the need for a wellness and stress control plan that can be used in personal and professional life.
03.21	Explore the importance of adequate nutrition (i.e. U.S. Department of Agriculture’s MyPlate food guide (www.choosemyplate.gov)).
03.22	Demonstrate safe behaviors in the proper use of medical equipment.
03.23	Explain the theory of root- cause analysis.
03.24	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
03.25	Identify and practice security procedures for medical supplies and equipment in the various healthcare settings.

03.26	Describe fire, safety, disaster and evacuation procedures in the various healthcare settings.
03.27	Discuss applicable accrediting and regulatory agency patient safety guidelines.
04.0	Documentation: Demonstrate a fundamental depth, foundational breadth of knowledge of the principles of medical documentation and report writing. – The student will be able to:
04.01	Discuss 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 electronic communication to access and distribute data.
04.05	Describe the use and importance of properly 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	Demonstrate completion of a patient care report for a medical and trauma patient.
05.0	EMS System Communication: Demonstrate a simple depth, simple breadth of knowledge 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 verbal patient report that would be given to the staff at a receiving facility.
05.07	Perform a brief, organized verbal report that would be given during transfer of care at an incident scene.
06.0	Therapeutic Communication: Demonstrate a simple depth, simple breadth of knowledge of the principles of therapeutic communication. – The student will be able to:

06.01	Describe principles of therapeutic and effective communication with patients.
06.02	Discuss basic speaking and active listening skills.
06.03	Recognize the importance of patient/client educations regarding healthcare.
06.04	Discuss 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	Discuss 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	Discuss 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: Demonstrate a fundamental depth, foundational breadth of knowledge of medical legality and ethics. – The student will be able to:
07.01	Discuss the rational, importance, and limitations of patient autonomy.
07.02	Differentiate between expressed, implied and involuntary consent.
07.03	Discuss the methods of obtaining consent and procedures for minors.
07.04	Discuss the issues of abandonment, negligence, false imprisonment and battery and their implications to the EMT.
07.05	Discuss the implications for the EMT in patient refusal of care and/or transport.
07.06	Explain the importance, necessity and legality of patient confidentiality.
07.07	Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or Florida provisions regarding EMS application.
07.08	Discuss State of Florida and Federal special reporting situations including:
07.08.01	abuse
07.08.02	sexual assault
07.08.03	gunshot and knife wounds
07.08.04	communicable disease
07.08.05	animal Bites

07.09	Differentiate between civil tort and criminal actions.
07.10	Discuss the elements of negligence and defenses/protections from liability.
07.11	Discuss the role of the EMT at crime scenes and preservation of evidence.
07.12	Define ethics and morality and discuss their implication for the EMT.
07.13	Discuss Florida legislation such as:
07.13.01	Baker Act (FS 394.451)
07.13.02	Marchman Act (FS 397.601 and FS 397.675)
07.13.03	Emergency Examination and Treatment of Incapacitated Persons Act (FS 401.445)
07.14	Differentiate between the scope of practice and the standard of care as applied to the EMT.
07.15	Discuss the legal concepts and limitations 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 a fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. – The student will be able to:
08.01	Identify 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	Describe 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
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	Name and identify the location of the bones of the axial and appendicular skeleton.
08.10	Describe the classification and types of joints.
08.11	Discuss the mechanisms of breathing including:
08.11.01	mechanical ventilation
08.11.02	pulmonary volumes
08.11.03	dead space
08.11.04	lung compliance
08.12	Explain the diffusion of gases in external and internal respiration.
08.13	Describe oxygen and carbon dioxide transport in the blood.
08.14	Describe nervous and chemical mechanisms that regulate respirations.
08.15	Discuss respiration and acid-base balance.
08.16	Discuss the hemodynamics of blood pressure.
08.17	Discuss the role of nutrition, metabolism and body temperature on body function.
08.18	Describe the causes, advantages and disadvantages of a fever.
08.19	Discuss the hypothalamus functions as the thermostat in the body.

09.0	Medical Terminology: Demonstrate a fundamental knowledge in the use of medical terminology. – 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 a fundamental knowledge of the causes and pathophysiology 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 of respiratory failure and respiratory and cardiac arrest.
10.04	Understand shock, including the pathophysiology, causes, and the signs and symptoms associated with the various types of shock.
10.05	Discuss the variations in the pathophysiology of shock across the life span.
11.0	Life Span Development: Demonstrate a 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 across the life span.
12.0	Public Health: Demonstrate a 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	Discuss basic concepts of epidemiology.
12.04	Discuss ways of EMS involvement in injury prevention.
12.05	Identify areas of need for prevention programs in the community.
13.0	Principles of Pharmacology: Demonstrate a simple depth, simple breadth of knowledge of pharmacology, medication safety, and medication types used during an emergency. –The student will be able to:
13.01	Explain the “rights” of medication administration and describe how each one related to EMS.
13.02	Discuss and differentiate the various medication forms and the appropriate routes 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: <ul style="list-style-type: none"> 13.04.01 class 13.04.02 actions 13.04.03 contraindications 13.04.04 side effects 13.04.05 dose 13.04.06 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	Emergency Medications: Demonstrate a fundamental depth, simple breadth of knowledge of emergency medications within the scope of practice of the EMT. – The student will be able to:
14.01	State the following for each medication that can be administered by an EMT as dictated by the State of Florida and local medical direction : <ul style="list-style-type: none"> 14.01.01 class 14.01.02 generic and trade names 14.01.03 actions 14.01.04 indication 14.01.05 contraindications 14.01.06 complications 14.01.07 routes of administration 14.01.08 side effects 14.01.09 interactions 14.01.10 Doses of medications
14.02	Discuss the forms in which the medications may be found.
14.03	Demonstrate the steps in properly inspecting each type of medication.

14.04	Discuss the difference between administration versus assistance of patient medications.
15.0	Airway Management: Demonstrate a fundamental depth, foundational breadth of knowledge of airway management across the life span within the scope of practice of the EMT. – The student will be able to:
15.01	Review the structures and functions of the respiratory system.
15.02	Describe appropriate airway management for a patient with or without adequate breathing.
15.03	Describe indications for and demonstrate the steps in performing the head-tilt chin-lift and jaw thrust in all age groups.
15.04	Define, identify and describe the following:
15.04.01	tracheostomy
15.04.02	laryngectomy
15.04.03	stoma
15.04.04	tracheostomy tube
15.05	Describe the special considerations in airway management for the pediatric patient.
15.06	Demonstrate the techniques of suctioning.
15.07	Demonstrate relief of FBAO.
15.08	Demonstrate how to insert an oral and nasal -airway adjunct.
15.09	Demonstrate how to insert both esophageal and supra-glottic airways.
16.0	Respirations: Demonstrate a fundamental depth, foundational breadth of knowledge of respiration. – The student will be able to:
16.01	Review the pulmonary ventilation process to include mechanics of ventilation and alveolar ventilation (tidal volumes, dead space, etc.).
16.02	Describe the oxygenation process.
16.03	Explain both external and internal respiration process.
16.04	Discuss the various pathophysiologies of the respiratory system.
16.05	Describe assessment and management for adequate and inadequate respiration, including the use of pulse oximetry and capnography.
16.06	Describe the following regarding supplemental oxygen delivery devices:
16.06.01	indications
16.06.02	contraindications
16.06.03	advantages
16.06.04	disadvantages
16.06.05	complications
16.06.06	liter flow range

16.06.07	concentration of delivered oxygen
16.06.08	procedures
16.06.09	purpose
16.06.10	components
16.07	Review the anatomy and physiology of the respiratory system including:
16.07.01	control of respirations
16.07.02	mechanics of respiration
16.07.03	pulmonary ventilation
16.07.04	oxygenation
16.07.05	mechanical ventilation
16.08	Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
16.09	Demonstrate the correct operation of oxygen tanks and regulators.
16.10	Demonstrate the use of high, medium, low, and variable concentration oxygen delivery devices for all age groups.
16.11	Discuss the use of an oxygen humidifier and the requirements needed for its use.
16.12	Discuss the differences between negative pressure and positive pressure ventilation.
17.0	Artificial Ventilations: Demonstrate a fundamental depth, foundational breadth of knowledge of assessment and management utilizing ventilation across the life span. – The student will be able to:
17.01	Demonstrate how to ventilate a patient with a pocket mask.
17.02	Demonstrate the safe and effective ventilation for a patient with a BVM for one or two rescuers using oral-nasal adjuncts with appropriate airway positioning.
17.03	Discuss the signs of adequate and inadequate ventilation using the BVM.
17.04	Describe the steps involved in performing a comprehensive assessment of ventilations.
17.05	Demonstrate how to ventilate a patient with a stoma.
17.06	Demonstrate the use of various devices used in the assessment of supra-glottic airway placement.
17.07	Describe the following for a patient with an automatic transport ventilator (ATV):
17.07.01	indications
17.07.02	contraindications
17.07.03	advantages
17.07.04	disadvantages
17.07.05	complications
17.07.06	technique for ventilating
17.08	Describe the following for a patient with a CPAP:
17.08.01	indications

	17.08.02	contraindications
	17.08.03	advantages
	17.08.04	disadvantages
	17.08.05	complications
	17.08.06	technique for ventilating
18.0	Scene Size-Up: Demonstrate a fundamental depth, foundational breadth of knowledge of scene management and multiple patient situations. – The student will be able to:	
18.01	Recognize and describe hazards/potential hazards at the scene.	
18.02	Discuss common mechanisms of injury/nature of illness.	
18.03	Discuss the priority considerations for multiple-patient situations.	
18.04	Explain why it is important for the EMT to anticipate and determine the need for additional or specialized resources.	
18.05	Discuss the importance of continuous scene assessment to ensure safety of the EMS team and the patient.	
18.06	Discuss the minimum standard precautions that should be followed and PPE that should be worn as appropriate.	
18.07	Discuss special considerations for dealing with a violent scene.	
18.08	Explain the rationale for crew members to evaluate scene safety prior to entering.	
18.09	Explain how patient situations affect your evaluation of mechanism of injury or illness.	
19.0	Primary Assessment: Demonstrate a fundamental depth, simple breadth of knowledge of the primary assessment for all patient situations. – The student will be able to:	
19.01	Summarize the elements of a general impression of the patient.	
19.02	Explain the reason for performing a primary assessment.	
19.03	Discuss and demonstrate methods of assessing level of responsiveness using AVPU.	
19.04	Discuss and demonstrate methods of assessing the airway and providing airway care across the life span.	
19.05	Describe and demonstrate methods used for assessing if a patient is breathing across the life span.	
19.06	Differentiate between a patient with adequate and inadequate breathing.	
19.07	Describe and demonstrate the methods used to obtain a pulse across the life span.	
19.08	Discuss and demonstrate assessing the patient for external bleeding.	
19.09	Describe and demonstrate the assessment and interpretation of skin color, temperature, moisture and capillary refill across the life span.	

19.10	Explain the reasons prioritizing a patient for care and transport.
19.11	Describe when it is appropriate to expose the patient completely.
19.12	Differentiate between critical life-threatening, potentially life-threatening, and non-life-threatening patient presentations.
20.0	History-Taking: Demonstrate a fundamental depth, foundational breadth of knowledge of the components of history taking. – The student will be able to:
20.01	Determine and investigate the chief complaint.
20.02	Describe components of the patient history.
20.03	Explain the importance of obtaining a SAMPLE and OPQRST history.
20.04	Acknowledge the feelings patients experience during assessment.
20.05	Discuss the value of obtaining a family and social history.
20.06	Describe examples of different techniques the EMT may use to obtain information from patients, family or bystanders during the history taking process.
21.0	Secondary Assessment: Demonstrate a fundamental depth, foundational breadth of knowledge of techniques used for a secondary assessment. – The student will be able to:
21.01	Discuss the components and techniques of the physical exam and skills involved.
21.02	Discuss the indications for performing:
21.02.01	rapid assessment
21.02.02	focused exam
21.02.03	head to toe exam
21.03	Demonstrate:
21.03.01	rapid exam
21.03.02	focused exam
21.03.03	head to toe exam
21.04	Describe and demonstrate the techniques of inspection, palpation, percussion, and auscultation.
21.05	Describe and demonstrate the importance of obtaining a baseline set of vital signs.
21.06	Discuss blood pressure ranges across the life span.
22.0	Monitoring Devices: Demonstrate a simple depth, simple breath of knowledge of monitoring devices within the scope of practice of the EMT. – The student will be able to:
22.01	Describe and demonstrate the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies.
22.01.01	pulse oximetry
22.01.02	glucometry

	22.01.03	capnography
	22.01.04	noninvasive BP monitoring
	22.01.05	thermometry
	22.01.06	telemetry
	22.02	Demonstrate proper placement of a cardiac monitor and diagnostic ECG leads.
23.0	Reassessment:	Demonstrate a fundamental depth, foundational breadth of knowledge of how and when to perform a reassessment for all patient situations. – The student will be able to:
	23.01	Describe the components of reassessment and demonstrate the skills involved.
	23.02	Discuss the reasons for repeating the primary assessment as part of the reassessment.
	23.03	Explain trending assessment components and its value to other health professionals who assume care of the patient.
	23.04	Demonstrate the reassessment of patients across the life span.
24.0	Medical Overview:	Demonstrate a simple depth, foundation breadth of knowledge of pathophysiology, assessment and management of medical complaints. – The student will be able to:
	24.01	Identify factors that complicate patient assessment:
	24.01.01	scene safety
	24.01.02	environmental factors
	24.01.03	chief complaint
	24.01.04	EMT preconceptions
	24.01.05	distracting injuries
	24.01.06	tunnel vision
	24.01.07	patient cooperation
	24.01.08	EMT attitude
	24.02	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
25.0	Neurology:	Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of neurologic disorders/emergencies across the life span. – The student will be able to:
	25.01	Review the anatomy and physiology of the nervous system.
	25.02	Describe the pathophysiology of the following neurologic disorders:
	25.02.01	altered mental status
	25.02.02	stroke
	25.02.03	transient ischemic attack
	25.02.04	headache
	25.02.05	seizures
	25.02.06	syncope
	25.03	Discuss and identify the causes, signs and symptoms of ischemic strokes, hemorrhagic strokes, and transient ischemic attacks and their similarities and differences.

25.04	Discuss and demonstrate how to use a stroke scoring system in the assessment of patients with suspected stroke.
25.05	Define and differentiate generalize seizure, partial seizure and status epilepticus and list their possible causes.
25.06	Define and differentiate migraine headache, sinus headache, tension headache and discuss how to distinguish harmless headaches from something more serious.
25.07	Define “altered mental status” and identify the possible causes.
25.08	Describe and demonstrate the assessment and management of the patient with various neurological emergencies in all age groups to include:
25.08.01	strokes
25.08.02	headaches
25.08.03	seizures
25.08.04	altered mental status
25.09	Discuss the transport of the stroke patient to the appropriate treatment center.
26.0	Abdominal and Gastrointestinal Disorder: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of abdominal and gastrointestinal disorders/emergencies across the life span. – The student will be able to:
26.01	Review the basic anatomy and physiology the gastrointestinal, genital and urinary systems.
26.02	Define and describe the pathophysiology of the following abdominal and gastrointestinal disorders:
26.02.01	abdominal pain
26.02.02	acute abdomen
26.02.03	peritonitis
26.02.04	appendicitis
26.02.05	pancreatitis
26.02.06	cholecystitis
26.02.07	gastrointestinal bleeding
26.02.08	esophageal varices
26.02.09	gastroenteritis
26.02.10	ulcers
26.02.11	intestinal obstruction
26.02.12	hernia
26.02.13	abdominal aortic aneurysm
26.03	Identify the signs and symptoms of common GI disorders.
26.04	Describe and demonstrate the assessment and management of the patient with various gastrointestinal emergencies.
26.05	Differentiate between hemorrhagic and non-hemorrhagic abdominal pain.
27.0	Immunology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of immunology disorders/emergencies across the life span. – The student will be able to:

27.01	Define and differentiate allergic reaction and anaphylaxis.
27.02	Describe the pathophysiology of the following immunology disorders: 27.02.01 allergic reaction 27.02.02 anaphylaxis 27.02.03 anaphylactic shock
27.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an allergic or anaphylactic reaction.
27.04	Review the following for the epinephrine auto-injector: 27.04.01 generic and trade names 27.04.02 medication forms 27.04.03 dose 27.04.04 administration 27.04.05 action 27.04.06 contraindications
27.05	Demonstrate the use of epinephrine auto-injector.
27.06	Review the anatomy and physiology of the organs and structures related to anaphylaxis.
27.07	Describe the incidence, morbidity and mortality of anaphylaxis.
27.08	Recognize the signs and symptoms related to anaphylaxis.
27.09	Describe the risk factors for and prevention of anaphylaxis and appropriate patient education.
27.10	Discuss common antigens most frequently associated with anaphylaxis.
27.11	Explain the importance of separating the patient from the allergen when possible.
28.0	Infectious Disease: Demonstrate a simple depth, simple breadth of knowledge of the assessment and management of a patient who may have an infectious disease across the life span. – The student will be able to:
28.01	Discuss the causes of infectious diseases
28.02	Describe the pathophysiology of infectious diseases of significant public health concern.
28.03	Describe and demonstrate the assessment and management of the patient in all age groups experiencing an infectious disease.
28.04	Discuss mandatory notification to State or Federal agencies of various diseases.
28.05	Identify patients with risk factors for infectious disease.
28.06	Explain the principles and practices of infection control in prehospital care.
28.07	Describe and discuss the rationale for the various types of PPE.

28.08	Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
28.09	Discuss decontamination of the ambulance and disinfection of patient care equipment, and areas in which care of the patient occurred.
28.10	Describe the actions to take if the EMS provider is exposed to an infectious disease.
28.11	Demonstrate the ability to comply with body substance isolation guidelines.
28.12	Discuss the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS)
29.0	Endocrine Disorders: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of endocrine disorders/emergencies across the life span. – The student will be able to:
29.01	Review the anatomy and physiology of the endocrine system and its main function in the body.
29.02	Describe the pathophysiology and signs and symptoms of the following endocrine disorders:
29.02.01	Insulin Dependent Diabetes Mellitus
29.02.02	Non-Insulin Dependent Diabetes Mellitus
29.02.03	hypoglycemia
29.02.04	hyperglycemia
29.02.05	Diabetic Ketoacidosis(DKA)
29.02.06	Hyperglycemic Hyperosmolar Non-ketotic Syndrome (HHNS)
29.03	Define and differentiate between Type I and Type II Diabetes.
29.04	Identify and demonstrate the steps in the management of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
29.05	Review the following for oral glucose:
29.05.01	generic and trade names
29.05.02	medication forms
29.05.03	dose
29.05.04	administration
29.05.05	action
29.05.06	contraindications
29.06	Demonstrate the steps of using a glucometer device and administering oral glucose.
29.07	Describe and demonstrate the assessment and the management of the patient experiencing an endocrinologic emergency to include hypo- and hyper-glycemia.
29.08	Discuss the general assessment findings associated with endocrinologic emergencies.
30.0	Psychiatric: Demonstrate a fundamental depth, foundational breadth of knowledge regarding the assessment and management of psychiatric emergencies across the life span. – The student will be able to:
30.01	Differentiate among behavior, psychiatric disorders and behavioral emergencies

30.02	Discuss common psychiatric disorders and behavioral emergencies.
30.03	Discuss the general factors that may cause an alteration in a patient's behavior.
30.04	Discuss the risk factors/signs or symptoms of various psychiatric emergencies to include suicide.
30.05	Manage a behavioral emergency scenario applying knowledge of medical/legal Florida Statutes.
30.06	Describe and demonstrate the assessment and management of the patient experiencing a behavioral or psychiatric emergency.
30.07	Describe the biological, psychosocial, and sociocultural influences on psychiatric disorders.
30.08	Describe the special considerations for the safety of the EMS provider and EMS crew, the patient and bystanders when dealing with behavioral and psychiatric emergencies.
30.09	Describe and demonstrate methods of restraint that may be used in the management of a patient with a behavioral emergency.
30.10	Explain the importance of provider behavior and communication in the care of a patient with a behavioral emergency.
31.0	Cardiovascular: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of cardiovascular emergencies across the life span. – The student will be able to:
31.01	Review the basic anatomy and physiology of the cardiovascular system.
31.02	Describe the pathophysiology and signs and symptoms of the following cardiovascular disorders:
31.02.01	acute coronary syndrome
31.02.02	angina pectoris
31.02.03	thromboembolism
31.02.04	myocardial infarction
31.02.05	hypertensive emergencies
31.02.06	aortic aneurysm/dissection
31.02.07	left and right sided heart failure
31.02.08	cardiogenic shock
31.02.09	cardiac arrest
31.03	Describe and demonstrate the assessment and management of the patient experiencing a cardiac emergency.
31.04	Discuss the indications and contraindications for automated external defibrillation (AED).
31.05	Explain the impact of age and weight on defibrillation.
31.06	Discuss the position of comfort for patients with various cardiac emergencies.
31.07	Explain the rationale for early defibrillation.
31.08	Discuss and differentiate among various types of external defibrillators.

31.09	Discuss and differentiate among the various types of implanted cardiac devices.
31.10	Understand the importance of maintenance and operators check list for AED's.
31.11	Demonstrate the ability to use an AED according to the latest American Heart Association (AHA) guidelines.
31.12	Explain the role medical direction plays in the use of automated external defibrillation.
31.13	Explain the rationale for administering nitroglycerin and ASA to a patient with chest pain or discomfort.
31.14	Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
31.15	Demonstrate the assessment and documentation of patient response to nitroglycerin.
31.16	Discuss the purpose and use of CPR assist devices.
32.0	Toxicology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of toxicological (poisoning and overdose) emergencies across the life span. – The student will be able to:
32.01	Define and differentiate among toxicology, poisoning, and overdose.
32.02	Describe the pathophysiology and signs and symptoms of the following toxicological emergencies, including but not limited to:
32.02.01	food poisoning
32.02.02	carbon monoxide poisoning
32.02.03	cyanide poisoning
32.02.04	exposure to acid or alkaline substances
32.02.05	exposure to hydrocarbons
32.02.06	methanol ingestion
32.02.07	isopropanol ingestion
32.02.08	ethylene glycol ingestion
32.02.09	exposure to poisonous plants
32.02.10	drug withdrawal
32.02.11	alcoholic syndrome
32.02.12	withdrawal syndrome (including delirium tremens)
32.02.13	illicit drug use
32.02.14	medication overdose
32.02.15	opioid overdose
32.02.16	organa phosphate overdose
32.03	Discuss various ways that toxins enter the body.
32.04	Discuss and demonstrate the assessment and management for the patient with a toxicological emergency.
32.05	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
32.06	Explain the rationale for contacting medical direction early in the prehospital management of a patient with a toxicological emergency.

32.07	Review the following for Narcan (naloxone):
32.07.01	generic and trade names
32.07.02	medication forms
32.07.03	dose
32.07.04	administration
32.07.05	action
32.07.06	contraindications
33.0	Respiratory: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span – The student will be able to:
33.01	Review the basic anatomy and physiology of the respiratory system.
33.02	Describe the pathophysiology and signs and symptoms of the following respiratory disorders:
33.02.01	chronic obstructive pulmonary disease
33.02.02	asthma
33.02.03	pulmonary edema
33.02.04	spontaneous pneumothorax
33.02.05	hyperventilation syndrome
33.02.06	cystic fibrosis
33.02.07	pulmonary embolism
33.02.08	pneumonia
33.02.09	viral respiratory infections
33.02.10	poisonous exposures
33.02.11	bacterial respiratory infections
33.03	Discuss signs of adequate air exchange.
33.04	Discuss the signs and symptoms of a patient across the continuum from respiratory distress to failure.
33.05	Describe and demonstrate the assessment and management of the patient with a respiratory emergency.
33.06	Review the following for the metered-dose inhalers and small volume nebulizers for medications within the scope of practice of the EMT:
33.06.01	generic name
33.06.02	medication forms
33.06.03	dose
33.06.04	administration
33.06.05	action
33.06.06	indications
33.06.07	contraindications
33.07	Describe and demonstrate the steps in facilitating the use of an inhaler and a small volume nebulizer.
33.08	Differentiate between upper and lower airway obstruction.

33.09	Demonstrate assessment and interpretation of normal and abnormal lung and breath sounds.
34.0	Hematology: Demonstrate a simple depth, simple breadth of knowledge of the assessment, and management of hematology disorders across the life span. –The student will be able to:
34.01	Review the compositions and functions of blood and plasma.
34.02	Describe the pathophysiology of the following hematology disorders:
34.02.01	anemia
34.02.02	Sickle Cell Anemia / Sickle Cell Crisis
34.02.03	hemophilia
34.03	Describe and demonstrate the assessment and the management of the patient with a hematological disorder.
35.0	Genitourinary /Renal: Demonstrate a simple depth, simple breadth of knowledge of the assessment and management of genitourinary/ renal emergency across the life span. – The student will be able to:
35.01.01	Review the basic anatomy and physiology of the genitourinary and renal systems.
35.02	Describe the pathophysiology and signs and symptoms of the following genitourinary/ renal disorders:
35.02.01	urinary tract infection
35.02.02	kidney stones
35.02.03	kidney failure
35.03	Discuss the basic principles of kidney dialysis.
35.04	Discuss the recognition and complications of urinary catheters.
35.05	Describe and demonstrate the assessment and management of the patient with a dialysis emergency.
36.0	Gynecology: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of gynecologic emergencies across the life span. – The student will be able to:
36.01	Review the basic anatomy and physiology of the female reproductive system.
36.02	Describe the pathophysiology and signs and symptoms of the following gynecologic disorders and emergencies, including but not limited to:
36.02.01	sexual assault
36.02.02	non-traumatic vaginal bleeding
36.02.03	menstrual pain
36.02.04	ovarian cyst
36.02.05	endometritis
36.02.06	endometriosis
36.02.07	pelvic inflammatory disease
36.02.08	Sexually Transmitted Disease
36.03	Describe and demonstrate the assessment and management of the patient experiencing a gynecologic emergency.
36.04	Describe the assessment and management of a patient who has experienced a sexual assault including the psychosocial impact and

	assessment findings/presentations.
36.05	Discuss the professional and psychological importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
36.06	Discuss the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.
37.0	Non-Traumatic Musculoskeletal Disorders: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of non-traumatic fractures across the life span. – The student will be able to:
37.01	Review the basic anatomy and physiology of the musculoskeletal system.
37.02	Describe and demonstrate the assessment and management of the patient in all age groups with a non-traumatic musculoskeletal emergency.
38.0	Diseases of the Eyes, Ears, Nose, and Throat: Demonstrate a simple depth, simple breadth of knowledge of assessment and management of diseases of the Eyes, Ears, Nose, and Throat across the life span –The student will be able to:
38.01	Describe and demonstrate the assessment and management of the patient in all age groups with abnormal conditions affecting the eyes, ears, nose and throat, including epistaxis.
39.0	Shock and Resuscitation: Demonstrate a fundamental knowledge of the causes, pathophysiology, and management of shock and respiratory failure across the life span. – The student will be able to:
39.01	Discuss and identify causes and pathophysiology of the categories of hemorrhage and shock.
39.02	Review causes and pathophysiology of respiratory failure and arrest.
39.03	Review causes and pathophysiology of cardiac failure or arrest.
39.04	Discuss the various types and degrees of shock.
39.05	Discuss post resuscitation management.
39.06	Explain the system components of CPR, the links in the AHA chain of survival and how each relates to patient survival.
39.07	Define and differentiate between compensated and decompensated shock.
39.08	Discuss the importance of teamwork in the successful management of the critical patient.
39.09	Demonstrate how to perform one and two rescuer CPR, adult, child, and infant.
39.10	Demonstrate how to perform rescuer level appropriate defibrillation in an adult, child, and infant patient.
39.11	Demonstrate rapid decision making based on differential field diagnosis of the critical patient with a peri-arrest condition.
39.12	Describe and demonstrate the assessment and management of the patient with hemorrhage and shock.
40.0	Trauma Overview: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of the trauma patient across the life span. – The student will be able to:

40.01	Discuss pathophysiology of the trauma patient.
40.02	Discuss the components of a comprehensive trauma systems and levels of trauma centers.
40.03	Describe the considerations for different transportation modes to a trauma center.
40.04	Discuss the kinematics of blunt and penetrating trauma.
40.05	Discuss and describe significant and non-significant Mechanism of Injury (MOI) and provide examples of each.
40.06	Demonstrate the application of the State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code (F.A.C.).
40.07	Discuss the National Trauma Triage Protocol of injured Patients.
40.08	Discuss forming a field impression and utilizing available information to determine a differential diagnosis.
40.09	Identify the need for rapid intervention transport of the trauma patient.
41.0	Bleeding: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of bleeding across the life span. – The student will be able to:
41.01	Review the anatomy and physiology of the circulatory system.
41.02	Discuss the different types of bleeding and classes of hemorrhage.
41.03	Review signs and symptoms of shock (hypo-perfusion).
41.04	Demonstrate effective hemorrhage control to include application of a tourniquet.
41.05	Review the pathophysiology of hemorrhagic shock.
41.06	Recognize the need for rapid transport for patients that are bleeding and showing signs of shock (hypo-perfusion).
41.07	Describe and demonstrate the assessment and management of a patient with hemorrhagic shock.
41.08	Discuss the possible complications of an improperly applied dressing, bandage, tourniquet, and hemostatic agents.
42.0	Chest Trauma: Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment and management of chest trauma across the life span. –.The student will be able to:
42.01	Review the anatomy and physiology of the thoracic/chest cavity and respiratory system.
42.02	Differentiate between a pneumothorax (open, simple and tension) and hemothorax.
42.03	Discuss the pathophysiology, signs and symptoms, and MOI of myocardial injuries, including the following:
42.03.01	pericardial tamponade
42.03.02	myocardial contusion
42.03.03	myocardial rupture

	42.03.04	commotio cordis
	42.03.05	aortic sheerer
42.04	Discuss the pathophysiology, signs and symptoms, and MOI of specific chest wall injuries, including the following:	
	42.04.01	rib fracture
	42.04.02	flail segment
	42.04.03	sternal fracture
42.05	Describe and demonstrate the assessment and management of chest trauma.	
43.0	Abdominal and Genitourinary Trauma: Demonstrate a fundamental depth, simple breadth of knowledge of pathophysiology, assessment and management of abdominal and genitourinary trauma across the life span. – The student will be able to:	
43.01	Review the anatomy and physiology of the abdominal cavity and genitourinary system.	
43.02	Discuss the pathophysiology, signs and symptoms, and MOI for abdominal trauma including hallow and solid injuries.	
43.03	Describe and demonstrate the assessment and management of a patient with a suspected abdominal or genitourinary injury/trauma.	
44.0	Orthopedic Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span. – The student will be able to:	
44.01	Review the anatomy and physiology of the musculo-skeletal system.	
44.02	Discuss pathophysiology, signs and symptoms, and MOI for orthopedic trauma.	
44.03	Discuss the different types of orthopedic trauma including fracture classifications.	
44.04	Explain the rationale for stabilization of an injured extremity.	
44.05	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic trauma.	
44.06	Discuss the following management techniques:	
	44.06.01	heat therapy
	44.06.02	cold therapy
	44.06.03	splinting
44.07	List the six “P’s” of orthopedic injury assessment.	
44.08	Discuss the need for assessment of distal pulses, motor, and sensation before and after splinting.	
44.09	Review age-associated changes in the bones.	
44.10	Discuss the proper procedures to package an amputated body part for replantation.	
44.11	Explain the rationale for splinting at the scene versus load and go.	
44.12	Demonstrate the proper use of various splinting materials and devices to include improvised and traction splints.	

45.0	Soft Tissue Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span. – The student will be able to:
45.01	Review anatomy and physiology of the integumentary system to include the layers of the skin.
45.02	Describe the pathophysiology, signs and symptoms, and MOI of soft tissue trauma.
45.03	Describe and demonstrate the assessment and management of various soft tissue injuries.
45.04	Identify types of burn injuries, including:
45.04.01	thermal burn
45.04.02	chemical burn
45.04.03	electrical burn
45.04.04	radiation exposure
45.05	Describe the depth classifications of burn injuries, including:
45.05.01	superficial burn
45.05.02	partial-thickness burn
45.05.03	full-thickness burn
45.05.04	other depth classifications
45.06	Describe and demonstrate methods for determining body surface area percentage of a burn injury including the “rule of nines,” the “rule of palms,” and other methods.
45.07	Explain how the seriousness of a burn is related to its depth and percent of body surface area (BSA) involved.
45.08	Review the various management techniques for hemorrhage control.
45.09	Differentiate among the types of injuries requiring the use of an occlusive versus non- occlusive dressing.
45.10	Demonstrate the assessment and management of specific burn injuries including:
45.10.01	thermal
45.10.02	inhalation
45.10.03	chemical
45.10.04	electrical
45.10.05	radiation
46.0	Head, Facial, Neck, and Spine Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of head, facial, neck and spine trauma across the life span. – The student will be able to:
46.01	Review the anatomy and physiology of the head, face, neck and spine.
46.02	Describe the pathophysiology, signs and symptoms, and MOI for head, face, neck, and spine trauma.

46.03	Describe and demonstrate the assessment and management of a patient with the following traumas to the head, face, neck, and spine:
46.03.01	penetrating neck trauma
46.03.02	laryngotracheal injury
46.03.03	skull fracture
46.03.04	facial fracture
46.03.05	eye injury (foreign body)
46.03.06	dental trauma
46.04	Recognize and manage life threats due to face, head, neck, and spine trauma.
46.05	Discuss and demonstrate the utilization of the Glasgow Coma Scale.
47.0	Nervous System Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of nervous system trauma across the life span. – The student will be able to:
47.01	Review the anatomy and physiology of the nervous system.
47.02	Discuss the pathophysiology, signs and symptoms, and MOI for brain and spinal cord trauma.
47.03	Describe and demonstrate the assessment and management of a patient with a brain and/or spinal cord trauma.
47.04	Discuss the rationale and potential complications of spinal motion restriction of the entire spine when a cervical spine injury is suspected.
47.05	Given a scenario, discuss whether or not to remove a helmet prior to transport of a patient.
47.06	Demonstrate various methods for stabilization and removal of a helmet.
47.07	Discuss documentation of assessment before, during, and after spinal motion restriction.
48.0	Special Considerations in Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of trauma patients with special considerations across the life span. – The student will be able to:
48.01	Review the anatomy and physiology for the following trauma patients:
48.01.01	pregnant
48.01.02	pediatric
48.01.03	geriatric
48.02	Discuss the pathophysiology, signs and symptoms, and MOI of trauma in the following patients:
48.02.01	pregnant
48.02.02	pediatric
48.02.03	geriatric
48.03	Discuss and demonstrate unique assessment and management considerations for the following trauma patients:
48.03.01	pregnant
48.03.02	pediatric

	48.03.03	geriatric
	48.03.04	cognitively impaired
49.0	Environmental Emergencies: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment and management of environmental emergencies across the life span. – The student will be able to:	
49.01	Define drowning and discuss its incidence, risk factors and prevention.	
49.02	Discuss the pathophysiology, signs and symptoms, 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 injuries
	49.02.05	diving injuries
	49.02.06	lightning (electrical) injury
	49.02.07	high altitude illness
	49.02.08	radiation exposure
49.03	Describes and demonstrate the assessment and management for a patient with the following:	
	49.03.01	drowning and water related incidents
	49.03.02	temperature-related illness
	49.03.03	bites and envenomation
	49.03.04	dysbarism such as high-altitude injuries
	49.03.05	diving injuries
	49.03.06	lightning (electrical) injury
	49.03.07	high altitude illness
	49.03.08	radiation exposure
49.04	Discuss the fundamental principles of the gas laws including: Boyle's, Dalton, Henry and Charles.	
49.05	Discuss scene management and provider safety considerations for a variety of environmental emergencies.	
49.06	Explain the five ways a body can lose heat.	
49.07	Discuss potentially life threatening venomous species of insects, spiders and snakes in the U.S.	
50.0	Multi-Systems Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of the pathophysiology, assessment, and management of multi-system trauma and blast injuries across the life span. – The student will be able to:	
50.01	Discuss the pathophysiology, signs and symptoms, and MOI of multi-system trauma and blast injuries.	
50.02	Describe and demonstrate assessment and management considerations for a patient of multi system trauma and blast injuries.	
51.0	Obstetrics: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the obstetric patient within the scope of practice of the EMT. – The student will be able to:	
51.01	Identify and describe the anatomical and the physiological changes during pregnancy.	

51.02	Define the stages of labor and discuss how to assess them.
51.03	Differentiate between cephalic and abnormal delivery.
51.04	Describe the management of a patient with pre-delivery emergencies.
51.05	Discuss and demonstrate the patient care measures for all stages of labor in a cephalic delivery for the mother and the newborn.
51.06	Describe the management of the mother post-delivery.
51.07	Discuss and demonstrate the patient care measures for all stages of labor in abnormal deliveries for the mother and the newborn.
51.08	Describe the procedures for handling complications of delivery.
51.09	Describe special considerations when meconium is present in amniotic fluid or during delivery.
51.10	Identify the factors that lead to premature birth and low birth weight newborns.
51.11	Demonstrate the procedures for handling complications of pregnancy including pre-eclampsia, eclampsia, and high risk.
52.0	Neonatal Care: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the newborn and neonatal patient within the scope of practice of the EMT. – The student will be able to:
52.01	Discuss and demonstrate assessment and management considerations of a neonate.
52.02	Define the term neonate.
52.03	Describe special patient care considerations of a premature baby.
52.04	Calculate the Apgar score given various newborn situations.
52.05	Discuss the common signs when ventilatory assistance is appropriate for a neonate.
52.06	Discuss and demonstrate the steps in resuscitation of a neonate.
52.07	Review the signs of hypovolemia in a newborn.
52.08	Discuss the effects maternal narcotic usage has on the newborn.
52.09	Discuss the management/treatment plan for vomiting in the neonate.
52.10	Discuss the assessment findings associated with common birth injuries in the neonate.
53.0	Pediatrics: Demonstrate a fundamental depth, fundamental breath of knowledge of management of the pediatric patient within the scope of practice of the EMT. – The student will be able to:
53.01	Review the anatomy, physiology and pathophysiology differences of patients.

53.02	Discuss the differences in approaching and assessing patients.
53.03	Discuss and demonstrate assessment and management considerations for Sudden Unexplained Infant Death Syndrome (SUIDS).
53.04	Describe the selection of appropriate airway adjuncts and ventilation devices.
53.05	Discuss complications of improper utilization of airway adjuncts and ventilation devices.
53.06	Describe the common causes, assessment and management of respiratory distress, failure, or arrest.
53.07	Discuss the common causes, assessment and management of hypo-perfusion.
53.08	Discuss the common causes, assessment and management of cardiopulmonary arrest.
53.09	Describe the common causes, assessment and management of altered level of consciousness.
53.10	Describe the common causes, assessment and management of trauma.
53.11	Describe the common causes, assessment and management of neurological emergencies.
53.12	Demonstrate proper technique for administering blow-by oxygen.
53.13	Review proper technique for suctioning.
53.14	Review appropriate use of airway adjuncts and ventilation devices.
53.15	Review age appropriate basic airway clearing maneuvers for a completely obstructed airway.
54.0	Geriatrics: Demonstrate a fundamental depth, foundational breadth of knowledge of management of the geriatric patient within the scope of practice of the EMT. – The student will be able to:
54.01	Define and discuss the term geriatrics.
54.02	Review the anatomy, physiology and pathophysiology of the geriatric patient.
54.03	Discuss common emotional and psychological concerns and conditions of the geriatric patient.
54.04	Discuss the importance of fall prevention with the geriatric patient.
54.05	Describe principles that should be employed when assessing and communicating with the geriatric patient.
54.06	Describe the common causes, assessment, and management of the geriatric patient with a medical, trauma, or psychosocial complaint.
55.0	Patients with Special Challenges: Demonstrate a simple depth, simple breadth of knowledge of the management of the patient with special challenges across the life span. –The student will be able to:
55.01	Discuss the special considerations required when providing emergency care to patients with:
55.01.01	abuse/neglect of vulnerable populations

55.01.02	homelessness
55.01.03	poverty
55.01.04	bariatrics
55.01.05	tech dependent
55.01.06	hospice/terminally ill
55.01.07	tracheostomy
55.01.08	home care
55.01.09	sensory deficit/loss
55.01.10	developmental disability
55.02	Discuss special considerations regarding common medical devices used in the home care of patients with special challenges including:
55.02.01	respiratory devices
55.02.02	cardiac devices
55.02.03	gastro-urinary devices
55.02.04	central & peripheral IV catheters
55.03	Describe home care and the types of patients it serves and the services it encompasses.
55.04	Differentiate between hospice/palliative care and curative care.
55.05	Discuss the role of the EMT as a patient advocate for vulnerable populations.
56.0	Principles of Safely Operating a Ground Ambulance: Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport. – The student will be able to:
56.01	Discuss the importance of performing regular vehicle and equipment inspection.
56.02	Demonstrate how to perform a daily inspection of an ambulance.
56.03	Review the general provisions of Florida laws relating to the operation of the ambulance.
56.04	Discuss the guidelines for operating an ambulance safely during emergency and non-emergency situation/incident.
56.05	Review considerations that are required for ensuring scene safety, including personal safety, patient safety, and traffic control.
56.06	Review how to clean and disinfect the ambulance and equipment.
57.0	Incident Management: Demonstrate a fundamental depth, fundamental breadth of knowledge of establishing and working within the incident management system. – The student will be able to:
57.01	Discuss the importance of NIMS (National Incidence Management System) and its functional components.
57.02	Discuss unified command and when it is applicable.
57.03	Describe the role of command and the procedures for transfer of command.

57.04	List and describe the functions of the following groups and leaders in ICS as it pertains to EMS incidents:
57.04.01	safety
57.04.02	logistics
57.04.03	rehabilitation
57.04.04	staging,
57.04.05	treatment
57.04.06	triage
57.04.07	transportation
57.04.08	extrication/rescue
57.04.09	morgue
57.04.10	communications
57.05	Discuss the physical and psychological signs of critical incident stress.
58.0	Multiple Casualty Incidents: Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident. – The student will be able to:
58.01	Review essential elements of scene size-up when arriving at a potential MCI.
58.02	Describe the role of the rescuers and EMS systems in planning for MCIs and disasters.
58.03	Describe the role of the physician at multiple casualty incidents.
58.04	Define triage and describe the principles of triage.
58.05	Describe the START (simple triage and rapid treatment) and JUMP START method of initial triage.
58.06	Describe techniques used to allocate patients to hospitals and track them.
58.07	Discuss and describe the essential equipment to provide logistical support to MCI operations.
58.08	Describe the role of critical incident stress management during and after MCIs.
58.09	Demonstrate the use of local/regional triage tagging system.
59.0	Air Medical: Demonstrate a simple depth, simple breadth of knowledge of safe air medical operations and criteria for utilizing air medical response. –The student will be able to:
59.01	Describe key scene safety considerations when preparing for a helicopter medivac, including establishing a landing zone and approaching the aircraft.
59.02	Describe the capabilities, protocols, and methods for accessing air medical transport.
59.03	Review the advantages and disadvantages of air medical transport.
59.04	Review the conditions/situations in which air medical transport should be considered.
60.0	Vehicle Extrication: Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools. –

The student will be able to:	
60.01	Describe the role of the EMT in patient rescue and vehicle extrication
60.02	Describe personal and patient safety during vehicle extrication.
60.03	Explain the difference between simple access and complex access in vehicle extrication.
60.04	Discuss patient care consideration related to assisting with rapid extrication, providing emergency care to the trapped patient and removing and transferring a patient.
60.05	Discuss the use of simple hand tools used for vehicle extrication.
60.06	Discuss and describe the hazards and safe practices associated with the following vehicle components:
60.06.01	energy absorbing bumpers
60.06.02	air bag/supplemental restraint systems
60.06.03	catalytic converters and conventional fuel systems
60.06.04	stored energy
60.06.05	hybrid-electric vehicles
60.07	Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles.
60.08	Describe the electrical hazards commonly found at highway incidents (above and below ground).
60.09	Explain the difference between tempered and safety glass, identify its locations on a vehicle and how to break it safely.
60.10	Explain typical door anatomy and methods to gain access to the patient.
61.0	Hazardous Materials Awareness: Demonstrate a simple depth, simple breadth of knowledge 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	Identify and describe resources for substance identification, decontamination, and treatment information, including but not limited to the following:
61.01.01	poison control center
61.01.02	medical control
61.01.03	material safety data sheets (MSDS),
61.01.04	reference textbooks
61.01.05	computer databases
61.01.06	Computer-Aided Management of Emergency Operations (CAMEO)
61.01.07	CHEMTREC
61.01.08	technical specialists
61.01.09	Agency for toxic substances and disease registry
61.02	Explain primary and secondary contamination risk.
61.03	Review routes of exposure.

61.04	Discuss how the substance and route of contamination alters triage and decontamination methods.
61.05	Explain the common signs, symptoms, and treatment for the following substances: 61.05.01 corrosives 61.05.02 pesticides 61.05.03 chemical asphyxiants 61.05.04 hydrocarbon solvents
61.06	Identify local facilities and resources capable of treating patients exposed to hazardous materials.
61.07	Determine the appropriate level of PPE by considering the following: 61.07.01 types 61.07.02 application 61.07.03 use and limitations 61.07.04 use of chemical compatibility chart
61.08	Explain specific decontamination procedures.
61.09	Discuss the designated HAZMAT control zones (HOT, WARM, and COLD).
61.10	Discuss an emergency two-step decontamination process.
61.11	Identify DOT Labels, placards and markings that are used to designate HAZMAT materials.
61.12	Demonstrate the ability to use a variety of reference materials to identify a HAZMAT material.
62.0	Mass Casualty Incidents Due to Terrorism and Disaster: Demonstrate a simple depth, simple breadth of knowledge of risks and responsibilities of operating on the scene of a natural or man-made disaster. – The student will be able to:
62.01	Describe the role of the EMT on the scene of a natural or man-made disaster.
62.02	Define the different types of terrorism and provide examples of incidents of each.
62.03	Describe the factors related to ensuring situational safety at the site of a disaster and the procedures required.
62.04	Discuss the National Terrorism Advisory System.
62.05	Discuss factors to consider when responding to a terrorist situation.
62.06	Review important actions to take at the scene of a terrorist event such as: 62.06.01 scene safety 62.06.02 personal protection 62.06.03 notification procedures 62.06.04 available resources 62.06.05 working with in the command system
62.07	List and describe the main categories of weapons of mass destruction.

62.08 Discuss the different types of chemical agents and their signs and symptoms.

62.09 Review the treatment and management of patients exposed to various types of chemical agents and radiation.

62.10 Review the different types of radiations and their effect on the human body.

62.11 Discuss 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: Paramedic
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

	College Credit	Career Certificate Program
Program Number	N/A	H170212
CIP Number	0351090417	0351090418
Grade Level	College Credit	30, 31
Standard Length	42 credit hours	1100 clock hours
CTSO	HOSA: Future Health Professionals	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2041 Emergency Medical Technicians and Paramedics	29-2041 Emergency Medical Technicians and Paramedics
Basic Skills Level:	N/A	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 the 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 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 clock hour, with college credit awarded to a student upon articulation to a state college.

Career Certificate 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	EMS0210	Paramedic I	248 hours	29-2041
	EMS0211	Paramedic II	426 hours	
	EMS0212	Paramedic III	426 hours	

College Credit

When offered at the college credit level, this ATD program is part of the Emergency Medical Services (AS – 1351090402) and has a program length of 42 credits.

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.

This program meets the Department of Health trauma score card methodologies and Sudden Unexpected Infant Death Syndrome (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 Commission on Accreditation of Allied Health Education Programs (CAAHEP). 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, foundational breadth of knowledge of the History of EMS and a complex depth, comprehensive breadth of knowledge of EMS Systems.
- 02.0 Demonstrate a fundamental depth, foundational breath of knowledge of research principles to interpret literature and advocate evidence-based practice.
- 03.0 Demonstrate a complex depth, comprehensive breadth of knowledge of workforce safety and wellness.
- 04.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the principles of medical documentation and report writing.
- 05.0 Demonstrate a complex depth, comprehensive breadth of knowledge of EMS communication system.
- 06.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the therapeutic communication principles.
- 07.0 Demonstrate a complex depth, comprehensive breadth of knowledge of medical legal and ethical concepts related to EMS.
- 08.0 Integrate a complex depth, comprehensive breadth of knowledge of anatomy and physiology of all human systems.
- 09.0 Integrate a comprehensive knowledge in the use of medical terminology and abbreviations into written and oral communication with health care professionals.
- 10.0 Demonstrate a complex knowledge of pathophysiology of major systems.
- 11.0 Integrate the knowledge of the physiological, psychological, and sociological changes throughout human development.
- 12.0 Demonstrate a fundamental knowledge of the principles of public health.
- 13.0 Demonstrate a complex depth, comprehensive breadth of knowledge in the principles of pharmacology.
- 14.0 Demonstrate a complex depth, comprehensive breadth of knowledge of medication administration within the scope of practice of the paramedic.
- 15.0 Demonstrate a complex depth, comprehensive breadth of knowledge of emergency medications within the scope of practice for the paramedic.
- 16.0 Demonstrate a complex depth, comprehensive breadth of knowledge of airway management within the scope of practice of the paramedic across the life span.
- 17.0 Demonstrate a complex depth, comprehensive breadth of knowledge of respiration within the scope of practice of the paramedic across the life span.
- 18.0 Demonstrate a complex breadth, comprehensive breadth of knowledge of ventilator assessment and management across the life span.
- 19.0 Demonstrate a complex depth, comprehensive breadth of knowledge of scene management.
- 20.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the primary assessment for all patient situations.
- 21.0 Demonstrate a complex depth, comprehensive breath of knowledge of the components of history taking.
- 22.0 Demonstrate a complex depth, comprehensive breadth of knowledge of techniques used for a secondary assessment across the life span.
- 23.0 Demonstrate a fundamental depth, foundational breadth of knowledge of monitoring devices within the scope of practice of the paramedic.
- 24.0 Demonstrate a complex depth, comprehensive breadth of knowledge of how and when to perform a reassessment for all patient situations.
- 25.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of medical complaints.
- 26.0 Demonstrate a complex depth, comprehensive breadth of knowledge of neurologic disorders/emergencies across the life span.
- 27.0 Demonstrate a complex depth, comprehensive breadth of knowledge of abdominal and gastrointestinal disorders/emergencies across the life span.
- 28.0 Demonstrate a complex depth, comprehensive breadth of knowledge of immunology disorders/emergencies across the life span.

- 29.0 Demonstrate a complex depth, comprehensive breadth of knowledge of assessment and management of a patient who may have an infectious disease across the life span.
- 30.0 Demonstrate a complex depth, comprehensive breadth of knowledge in endocrine disorders/emergencies across the life span.
- 31.0 Demonstrate a complex depth, comprehensive breadth of knowledge regarding the assessment and management of psychiatric disorders/emergencies across the life span.
- 32.0 Demonstrate a complex depth, comprehensive breadth of knowledge of cardiovascular disorders/ emergencies across the life span.
- 33.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of toxicology emergencies across the life span.
- 34.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span.
- 35.0 Demonstrate a complex depth, foundational breadth of knowledge of the assessment and management of hematology disorders/emergencies across the life span.
- 36.0 Demonstrate a complex depth, comprehensive breadth of knowledge of genitourinary and renal emergencies across the life span.
- 37.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment findings and the management of gynecology disorders/emergencies across the life span.
- 38.0 Demonstrate a fundamental depth, foundation breadth of knowledge of the assessment and management of non-traumatic fractures across the life span.
- 39.0 Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of common or major diseases of the eyes, ears, nose, and throat across the life span.
- 40.0 Demonstrate the integration of a comprehensive knowledge of causes and pathophysiology into the management of shock and respiratory failure.
- 41.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment and management of the trauma patient across the life span.
- 42.0 Demonstrate a complex depth, comprehension breadth of knowledge of pathophysiology, assessment and management of bleeding across the life span.
- 43.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span.
- 44.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span.
- 45.0 Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span.
- 46.0 Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span.
- 47.0 Demonstrate a fundamental depth, foundational breadth of knowledge of head, face, neck, and spine trauma across the life span.
- 48.0 Demonstrate a fundamental depth, foundational breadth of knowledge of nervous system trauma across the life span.
- 49.0 Demonstrate a complex depth, comprehensive breadth of knowledge of special considerations in trauma across the life span.
- 50.0 Demonstrate a complex depth, comprehensive breadth of knowledge of environmental emergencies across the life span.
- 51.0 Demonstrate a complex depth, comprehensive breadth of knowledge of multi-system trauma and blast injuries.

- 52.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the obstetric patient within the scope of practice of the paramedic.
- 53.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the neonatal patient within the scope of practice of the paramedic.
- 54.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the pediatric patient within the scope of practice of the paramedic.
- 55.0 Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the geriatric patient within the scope of practice of the paramedic.
- 56.0 Demonstrate a complex depth, comprehensive breadth of knowledge of management of the patient with special challenges within the scope of practice of the paramedic across the life span.
- 57.0 Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport.
- 58.0 Demonstrate a complex depth, comprehensive breadth of knowledge of establishing and working within the incident management system.
- 59.0 Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident.
- 60.0 Demonstrate a complex depth, comprehensive breadth of knowledge of air Medical transport risks, needs, and advantages.
- 61.0 Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools.
- 62.0 Demonstrate a simple depth, simple breadth of knowledge 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 knowledge 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 - ATD
Career Certificate Program Number: H170212

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

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, foundational breadth of knowledge of the History of EMS and a complex depth, comprehensive breadth of knowledge 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 Florida.
01.04	Explain 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 certification 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 and demonstrate 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 role of the EMS physician in providing medical direction.
01.12	Discuss examples of local protocols.

01.13	Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.
01.14	Describe the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
01.15	Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
01.16	Advocate the need for injury prevention.
01.17	Discuss the diverse types of EMS services and differences in their provision of care.
02.0	Research: Demonstrate a fundamental depth, foundational breath of knowledge of research principles to interpret literature and advocate evidence-based practice. – The student will be able to:
02.01	Interpret results and reach conclusions.
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 knowledge 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 the role of risk assessments and warning signs in cancer and cardiovascular disease.
03.05	Differentiate between 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 and resources 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	Discuss the need to treat each patient as an individual, with respect and dignity.

03.15	Discuss the need to respect the emotional needs of dying patients and their families.
03.16	Discuss the paramedics' role in performing community risk assessment.
04.0	Documentation: Demonstrate a complex depth, comprehensive breadth of knowledge 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	Demonstrate proper use of medical terminology.
04.03	Record 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 PCR (patient care record).
05.0	EMS Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 for an emergency response and transport.
05.03	Discuss the importance of proper terminology when communicating during an emergency.
05.04	Discuss factors that impede or enhance effective verbal and written communications.
05.05	Discuss the legal implications of written communications.
05.06	Identify the components of the local EMS communications system and describe their function and use.
05.07	Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.

05.08	Describe the functions and responsibilities of the Federal Communications Commission.
05.09	Describe how emergency medical dispatch (EMD) functions as an integral part of the EMS system.
05.10	List appropriate information to be gathered by the telecommunicator.
05.11	Demonstrate an organized and concise radio transmission
05.12	Demonstrate an organized and concise patient report upon transfer of care.
06.0	Therapeutic Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 difficult patients.
06.05	Summarize developmental considerations across the life span 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 knowledge 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	Discuss State of Florida and Federal special reporting situations including: 07.02.01 abuse 07.02.02 sexual assault 07.02.03 gunshot and knife wounds 07.02.04 communicable disease 70.01.05 animal bites
07.03	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.
07.04	Differentiate between the scope of practice and the standard of care for paramedic practice.
07.05	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.
07.06	Review the four elements that must be present in order to prove negligence.

07.07	Review the legal concept and limitations of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
07.08	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
07.09	Review consent to include expressed, informed, implied, and involuntary.
07.10	Demonstrate appropriate patient management techniques in a refusal of care situation.
07.11	Discuss the issues of abandonment, negligence, false imprisonment, and battery and their implications to the paramedic.
07.12	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
07.13	Describe the importance of providing accurate communication (oral and written) in substantiating an incident.
07.14	Describe the criteria necessary to honor an advance directive in Florida.
08.0	Anatomy and Physiology: Integrate a complex depth, comprehensive breadth of knowledge 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.
08.02	Demonstrate comprehensive knowledge of anatomy and physiology as it applies to paramedic practice.
09.0	Medical Terminology: Integrate a comprehensive knowledge in the use of 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 medical terminology.
09.02	Demonstrate a comprehensive knowledge of medical terminology as it applies to paramedic practice.
10.0	Pathophysiology: Demonstrate a complex 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	Define and discuss the pathogenesis, signs, and symptoms of distributive, obstructive, neurogenic, anaphylactic, and septic shock.
10.04	Discuss multiple organ dysfunction syndrome (MODS).
10.05	Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury, and cellular death/necrosis.
10.06	Describe genetics and familial diseases and the role they play in pathophysiology.
10.07	Describe the self–defense mechanisms of inflammation and immune responses and their relationships to pathophysiology.
11.0	Life Span Development: Integrate the 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 across the life span.
12.0	Public Health: Demonstrate a 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.
12.02	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 of knowledge 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 practice pertinent to the administration of medications.
13.10	List and describe available drug forms.
13.11	List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
13.12	Describe the process of:
13.12.01	pharmacokinetics
13.12.02	pharmacodynamics
13.12.03	theories of drug action
13.12.04	drug-response relationship
13.12.05	factors altering drug responses
13.12.06	predictable drug responses
13.12.07	iatrogenic drug responses
13.12.08	unpredictable adverse drug responses
13.13	Discuss the prevention, recognition and management of adverse medication reactions.

13.14	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 knowledge 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 practice pertinent to the administration of medications.
14.03	Review mathematical principles and demonstrate equations necessary 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	Review 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	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 14.11.01 inhalation route 14.11.02 gastric tube 14.11.03 rectal route
14.12	Differentiate among the different percutaneous routes of medication administration.
14.13	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
14.14	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values.
14.15	Demonstrate principles of medical asepsis in the administration of medications.
14.16	Demonstrate the procedure for disposal of contaminated items and supplies.
14.17	Demonstrate cannulation of peripheral, intravenous and/or external jugular veins.
14.18	Demonstrate intraosseous access.
14.19	Demonstrate administration of medications by the following routes: 14.19.01 oral

14.19.02	sublingual
14.19.03	buccal
14.19.04	auto-injector
14.19.05	inhalation route
14.19.06	intranasal route
14.19.07	subcutaneous route
14.19.08	intramuscular route
14.19.09	intravenous route
14.19.10	intraosseous route
15.0	Emergency Medications: Demonstrate a complex depth, comprehensive breadth of knowledge of emergency medications within the scope of practice for the paramedic. – The student will be able to:
15.01	Discuss 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: Demonstrate a complex depth, comprehensive breadth of knowledge of airway management within the scope of practice of the paramedic across the life span. –The student will be able to:
16.01	Explain the primary objective of airway maintenance.
16.02	Explain the differences in airway anatomy.
16.03	Define, identify and describe a tracheostomy, laryngectomy, stoma, and tracheostomy tube.
16.04	Describe the special considerations in airway management and ventilation for the pediatric patient.
16.05	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
16.06	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
16.07	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
16.08	Describe the indications, contraindications, advantages, disadvantages and complications for performing cricothyrotomy.
16.09	Demonstrate the procedure for percutaneous cricothyrotomy.
16.10	Review the function of the structures located in the upper and lower airway.
16.11	Demonstrate effective techniques of advanced airway management of the following:
16.11.01	orotracheal,

	16.11.02	nasotracheal,
	16.11.03	subglottic,
	16.11.04	supraglottic,
	79.22.05	digital intubation
	16.12	Describe and demonstrate methods of assessment for confirming correct placement of any airway device.
	16.13	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.
17.0	Respiration: Demonstrate a complex depth, comprehensive breadth of knowledge of respiration within the scope of practice of the paramedic across the life span. –The student will be able to:	
	17.01	List the concentration of gases that comprise atmospheric air.
	17.02	Describe the measurement of oxygen in the blood.
	17.03	Describe the measurement of carbon dioxide in the blood.
	17.04	Describe peak expiratory flow.
	17.05	Describe factors that cause decreased oxygen concentrations in the blood.
	17.06	Describe the factors that increase and decrease carbon dioxide production in the body.
	17.07	Define pulsus paradoxus.
	17.08	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
	17.09	Review the physiology of ventilation and respiration.
18.0	Ventilation: Demonstrate a complex breadth, comprehensive breadth of knowledge of ventilatory assessment and management across the life span. –The student will be able to:	
	18.01	Perform and interpret pulse oximetry and capnography.
	18.02	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV), BIPAP/CPAP, AND PEEP devices.
19.0	Scene Size-Up: Demonstrate a complex depth, comprehensive breadth of knowledge of scene management. –The student will be able to:	
	19.01	Describe common hazards found at the scene of a trauma and a medical patient.
	19.02	Discuss common mechanisms of injury/ nature of illness.
	19.03	Explain the rationale for crew members to evaluate scene safety prior to entering.
	19.04	Demonstrate the scene-size-up.

20.0	Primary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge 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 levels of responsiveness using AVPU.
20.04	Discuss and demonstrate methods of assessing the airway across the life span.
20.05	Describe and demonstrate methods used for assessing if a patient is breathing across the life span.
20.06	Differentiate between a patient with adequate and inadequate breathing.
20.07	Describe and demonstrate the methods used to obtain a pulse across the life span.
20.08	Discuss and demonstrate assessing the patient for external bleeding.
20.09	Describe and demonstrate the assessment and interruption of skin color, temperature, moisture, and capillary refill across the life span.
20.10	Explain the reasons for prioritizing a patient for care and transport.
20.11	Describe when it is appropriate to expose the patient completely.
20.12	Differentiate between critical life-threatening, potentially life-threatening, and non-life-threatening patient presentations.
21.0	History Taking: Demonstrate a complex depth, comprehensive breath of knowledge of the components of history taking. –The student will be able to:
21.01	Determine and investigate the chief complaint.
21.02	Describe the components of the patient history.
21.03	Explain the importance of obtaining a SAMPLE and OPQRST history.
21.04	Acknowledge the feelings patients experience during assessment.
21.05	Discuss the value of obtaining a family and social history.
21.06	Describe examples of different techniques the paramedic may use to obtain information from patients, family, or bystanders during the history taking process.
22.0	Secondary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge of techniques used for a secondary assessment across the life span. –The student will be able to:
22.01	Review EMT standards and benchmarks for secondary assessment.
22.02	Describe the techniques of inspection, palpation, percussion, and auscultation.

22.03	Discuss the limitations of conducting a physical exam in the out-of-hospital environment.
22.04	Demonstrate the examination of the patient including all major body systems and anatomical regions.
22.05	Distinguish the importance of abnormal assessment findings in all the major body systems and anatomical regions.
22.06	Describe the evaluation of patient's perfusion status based on findings in the initial assessment.
22.07	State the reasons for performing a rapid trauma assessment.
22.08	Discuss the reason for performing a focused history and physical exam.
22.09	Discuss appropriate gender and cultural considerations regarding assessment.
22.10	Discuss medical identification devices/ systems.
23.0	Monitoring Devices: Demonstrate a fundamental depth, foundational breadth of knowledge of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
23.01	Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies, including but not limited to:
23.01.01	continuous ECG monitoring
23.01.02	12-Lead ECG
23.01.03	capnography (wave form)
23.01.04	co-oximetry
23.01.05	methemoglobin monitoring
23.01.06	total hemoglobin
23.01.07	basic blood chemistry
23.01.08	ultrasound
23.01.09	other devices identified at the EMT level
23.02	Demonstrate the use of the following patient monitoring technologies, including but not limited to:
23.02.01	continuous ECG monitoring
23.02.02	12-Lead ECG
23.02.03	capnography (wave form)
23.02.04	other devices identified at the EMT level

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24.0	Reassessment: Demonstrate a complex depth, comprehensive breadth of knowledge of how and when to perform a reassessment for all patient situations. –The student will be able to:
24.01	Describe the components of reassessment and demonstrate the skills involved.
24.02	Discuss the reasons for repeating the primary 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 reassessment of patients across the life span.
25.0	Medical Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of medical complaints. –The student will be able to:
25.01	Identify factors that complicate patient assessment including: <ul style="list-style-type: none">25.01.01 scene safety25.01.02 environmental factors25.01.03 chief complaint25.01.04 paramedic preconceptions25.01.05 distracting injuries25.01.06 tunnel vision25.01.07 patient cooperation25.01.08 paramedic attitude
25.02	Discuss forming a field impression and utilizing available information to determine a different diagnosis.
26.0	Neurology: Demonstrate a complex depth, comprehensive breadth of knowledge of neurologic disorders/emergencies across the life span. – The student will be able to:
26.01	Identify the risk factors associated with nervous system dysfunction.
26.02	Review the anatomy and physiology of the organs and structures related to nervous system.
26.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with the following neurological conditions, including but not limited to: <ul style="list-style-type: none">26.03.01 coma26.03.02 altered mental status26.03.03 seizures26.03.04 syncope26.03.05 transient ischemic attack26.03.06 stroke and intracranial hemorrhage26.03.07 degenerative neurologic diseases26.03.08 chronic alcoholism26.03.09 back disorders

26.04	Describe and differentiate the major types of seizures.
26.05	Describe the types of stroke.
26.06	Describe the significance of the prevalence of neurologic disorders in the United States.
26.07	Discuss screen tools for assessment of stroke and large vessel occlusion.
26.08	Demonstrate the use of stroke screening tools and appropriate decision making regarding transport destination for a stroke patient.
27.0	Abdominal and Gastrointestinal Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge of abdominal and gastrointestinal disorders/emergencies across the life span. – The student will be able to:
27.01	Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
27.02	Differentiate between hemorrhagic and non-hemorrhagic causes of abdominal pain.
27.03	Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.
27.04	Discuss the pathophysiology, signs, and symptoms, and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders, including but not limited to:
27.04.01	both upper and lower gastrointestinal bleeding
27.04.02	acute gastroenteritis.
27.04.03	colitis.
27.04.04	diverticulitis.
27.04.05	appendicitis.
27.04.06	peptic ulcer disease.
27.04.07	bowel obstruction.
27.04.08	Crohn's disease.
27.04.09	pancreatitis.
27.04.10	esophageal varices.
27.04.11	hemorrhoids.
27.04.12	cholecystitis.
27.04.13	acute hepatitis.
27.05	Identify patients at risk for gastrointestinal emergencies.
27.06	Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
28.0	Immunology: Demonstrate a complex depth, comprehensive breadth of knowledge of immunology disorders/emergencies across the life span. – The student will be able to:
28.01	Define and differentiate:
28.01.01	allergic reaction.
28.01.02	anaphylaxis
28.01.03	antigens
28.01.04	antibodies

28.01.05	anaphylactoid reaction
28.02	Review the anatomy and physiology of the organs and structures related to anaphylaxis.
28.03	Describe the prevention of anaphylaxis and appropriate patient education.
28.04	Review the pathophysiology of allergy and anaphylaxis.
28.05	Describe the common methods of entry of allergens into the body.
28.06	Review common antigens most frequently associated with anaphylaxis.
28.07	Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis and allergic reaction.
29.0	Infectious Diseases: Demonstrate a complex depth, comprehensive breadth of knowledge of assessment and management of a patient who may have an infectious disease across the life span – The student will be able to:
29.01	Review EMT standards and benchmarks for infectious disease.
29.02	Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
29.03	Describe the steps of an infectious process.
29.04	Describe and differentiate infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
29.05	Review characteristics of the immune system.
29.06	Perform an assessment of a patient with an infectious/communicable disease.
29.07	Effectively and safely manage a patient with an infectious/communicable disease.
29.08	Review public health principles related to infectious disease.
29.09	Review the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
29.10	Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
29.11	Describes the EMS professional's responsibilities as well as their rights under the Ryan White Act.
29.12	Discuss the pathophysiology, signs, symptoms, assessment, and management and risk factors of significant health concerns.
29.13	Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease.
29.14	Describe the EMS provider's role in patient education and preventing disease transmission.
29.15	Review the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).

30.0	Endocrine Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge in endocrine disorders/emergencies across the life span. – The student will be able to:
30.01	Identify the risk factors related to disorders of the endocrine system.
30.02	Review the anatomy and physiology of organs and structures related to endocrinologic diseases.
30.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following endocrinologic emergencies:
30.03.01	hypoglycemia
30.03.02	hyperglycemia
30.03.03	diabetic ketoacidosis
30.03.04	Cushing's syndrome
30.03.05	adrenal insufficiency
30.03.06	pituitary disorders
30.03.07	thyroid disorders
31.0	Psychiatric: Demonstrate a complex depth, comprehensive breadth of knowledge regarding the assessment and management of psychiatric disorders/emergencies across the life span. – The student will be able to:
31.01	Differentiate among behavior, psychiatric disorders, and behavioral emergencies.
31.02	Discuss the pathophysiology of common psychiatric disorders and behavioral emergencies.
31.03	Discuss the general factors that may cause an alteration in a patient's behavior.
31.04	Discuss the factors/signs or symptoms of various psychiatric emergencies to include suicide.
31.05	Manage a behavioral emergency scenario applying knowledge of medical/legal Florida Statutes.
31.06	Describe and demonstrate the assessment and management of the patient 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 emergencies.
31.09	Explain the importance of provider behavior and communication in the care of a patient with a behavioral emergency.
31.10	Describe and demonstrate methods of restraint that may be used in the management of a patient with a behavioral emergency and possible legal implication.
31.11	List the risk factors (including behaviors) for suicide.
32.0	Cardiovascular: Demonstrate a complex depth, comprehensive breadth of knowledge of cardiovascular disorders/emergencies across the life span. – The student will be able to:
32.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.

32.02	Identify the risk factors of coronary artery disease.
32.03	Review the anatomy and physiology of the heart and circulatory system.
32.04	Discuss the electrophysiology of the heart.
32.05	Discuss and demonstrate ECG monitoring, 12 Lead placement, acquisition, and interpretation.
32.06	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
32.07	Identify the normal characteristics of the point of maximal impulse (PMI).
32.08	Discuss the normal and abnormal heart sounds and how they relate to hemodynamic events in the cardiac cycle.
32.09	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
32.10	Describe the conditions of pulseless electrical activity.
32.11	Compare and contrast electrotherapy to include pacing.
32.12	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan, including but not limited to:
32.12.01	angina
32.12.02	myocardial infarction STEMI/Non-STEMI
32.12.03	congestive heart failure
32.12.04	cardiac tamponade
32.12.05	cardiogenic shock
32.12.06	hypertension and acute hypertensive states
32.12.07	cardiac arrest
32.12.08	vascular disorders
32.12.09	hypertrophic cardiomyopathies
32.12.10	infectious diseases of the heart
32.12.11	congenital abnormalities
32.13	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
32.14	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.
32.15	List the characteristics of a patient eligible for thrombolytic therapy.
32.16	Define the term acute pulmonary edema and describe its relationship to left ventricular failure.
32.17	Discuss preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
32.18	Identify non-cardiac causes of cardiac arrest.

32.19	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
32.20	Identify circumstances and situations where resuscitation efforts would not be initiated or would be terminated.
32.21	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:
32.21.01	cardiopulmonary resuscitation
32.21.02	defibrillation
32.21.03	synchronized cardioversion
32.21.04	transcutaneous pacing
33.0	Toxicology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of toxicology emergencies across the life span. – The student will be able to:
33.01	Define and differentiate among toxicology, poisoning, and overdose.
33.02	Describe the pathophysiology and signs and symptoms of the following toxicological emergencies, including but not limited to:
33.02.01	food poisoning
33.02.02	carbon monoxide poisoning
33.02.03	cyanide poisoning
33.02.04	exposure to acid or alkaline substance
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 substances
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
33.02.15	Opioid overdose
33.02.16	Organa phosphate overdose
33.03	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
33.04	Review various ways that toxins enter the body.
33.05	Discuss and demonstrate the assessment and management for the patient with a toxicological emergency.
33.06	Explain the rationale for contacting medical direction early in the prehospital management of a patient with a toxicological emergency.
33.07	Review the following for Narcan (naloxone):
33.07.01	generic and trade names
33.07.02	medication forms
33.07.03	dose

	33.07.04	administration
	33.07.05	contraindications
34.0	Respiratory: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span. – The student will be able to:	
34.01	Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States.	
34.02	Review hypoventilation and hyperventilation, and outline the conditions with which they are often associated.	
34.03	Review the anatomy, physiology and functions of the respiratory system.	
34.04	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.	
34.05	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.	
34.06	Review between normal and abnormal breath/lung sounds and its physiologic significance.	
34.07	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.	
34.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following respiratory conditions, including but not limited to:	
	34.08.01	pulmonary infections (upper and lower airway)
	34.08.02	atelectasis
	34.08.03	anatomic or foreign body obstruction
	34.08.04	aspiration
	34.08.05	asthma
	34.08.06	emphysema
	34.08.07	chronic bronchitis
	34.08.08	spontaneous pneumothorax
	34.08.09	pleural effusion
	34.08.10	pulmonary embolism
	34.08.11	cancer
	34.08.12	toxic inhalations
	34.08.13	pulmonary edema
	34.08.14	acute respiratory distress syndrome (ARDS)
	34.08.15	pneumonia
	34.08.16	neoplasms of the lung
	34.08.17	hyperventilation syndrome
35.0	Hematology: Demonstrate a complex depth, foundational breadth of knowledge of the assessment, and management of hematology disorders/emergencies across the life span – The student will be able to:	
35.01	Identify the role of heredity in the risk for hematologic disorders.	
35.02	Review the anatomy and physiology of the hematopoietic system.	

35.03	Describe volume and volume-control related to the hematopoietic system.
35.04	Explain the significance of the hematocrit with respect to red cell size and number.
35.05	Explain the correlation of the RBC count, hematocrit and hemoglobin values.
35.06	Recognize medications used to decrease the risk of thrombosis.
35.07	Identify blood groups.
35.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following conditions, including but not limited to:
35.08.01	anemia
35.08.02	leukemia
35.08.03	lymphomas
35.08.04	polycythemia
35.08.05	disseminated intravascular coagulopathy
35.08.06	hemophilia
35.08.07	sickle cell disease
35.08.08	multiple myeloma
35.08.09	leukopenia/neutropenia
35.08.10	leukocytosis
35.08.11	thrombocytosis
35.08.12	thrombocytopenia
35.08.13	transfusion complications
36.0	Genitourinary/Renal: Demonstrate a complex depth, comprehensive breadth of knowledge of genitourinary and renal emergencies across the life span. – The student will be able to:
36.01	Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
36.02	Review the anatomy and physiology of the organs and structures related to urogenital diseases.
36.03	Discuss referred pain and visceral pain as it relates to urology.
36.04	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients of the following urologic and renal conditions, including but not limited to:
36.04.01	acute renal failure
36.04.02	chronic renal failure
36.04.03	complications related to hemodialysis and peritoneal dialysis.
36.04.04	renal calculi
36.04.05	priapism
36.04.06	testicular torsion
36.04.07	urinary tract infection

36.05	Review fluids, electrolytes, and acid based disturbances.
37.0	Gynecology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment findings and the management of gynecology disorders/emergencies across the life span. – The student will be able to:
37.01	Review anatomy and physiology of the female reproductive system.
37.02	Identify the normal events of the menstrual and ovarian cycle.
37.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with specific gynecological emergencies, including but not limited to:
37.03.01	infection (including pelvic inflammatory disease, Bartholin’s abscess, and vaginitis/ vulvovaginitis)
37.03.02	ovarian cyst and ruptured ovarian cyst
37.03.03	ovarian torsion
37.03.04	endometriosis
37.03.05	dysfunctional uterine bleeding
37.03.06	prolapsed uterus
37.03.07	vaginal foreign body
37.03.08	vaginal hemorrhage
37.04	Describe the importance of maintaining a patient’s modesty and privacy while still being able to obtain necessary information.
37.05	Discuss 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, foundation breadth of knowledge of the assessment and management of non-traumatic fractures across the life span. – The student will be able to:
38.01	Review the anatomy and physiology of the musculoskeletal system
38.02	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with musculoskeletal emergencies, including but not limited to:
38.02.01	osteomyelitis and tumors
38.02.02	disc disorders, lower back pain (cauda equine syndrome, sprain, and strain.)
38.02.03	joint abnormalities
38.02.04	muscle abnormalities
38.02.05	overuse syndrome
38.02.06	soft tissue infections
39.0	Diseases of the Eyes, Ears, Nose, and Throat: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of common or major diseases of the eyes, ears, nose and throat across the life span. – The student will be able to:
39.01	Review the anatomy and physiology of the eyes, ears, nose, and throat.
39.02	Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various eye diseases/injuries, including but not limited to:
39.02.01	burns of eye and adnexa
39.02.02	conjunctivitis
39.02.03	corneal abrasions

	39.02.04	foreign body
	39.02.05	inflammation of the eyelid
	39.02.06	glaucoma
	39.02.07	hyphemia
	39.02.08	iritis
	39.02.09	papilledema
	39.02.10	retinal detachment and defect
	39.02.11	cellulitis of orbit
39.03	Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various ear diseases/injuries including:	
	39.03.01	foreign body
	39.03.02	impacted cerumen
	39.03.03	labyrinthitis
	39.03.04	Meniere's disease
	39.03.05	otitis external and media
	39.03.06	perforated tympanic membrane
39.04	Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various nose diseases/injuries including:	
	39.04.01	epistaxis
	39.04.02	foreign body intrusion
	39.04.03	rhinitis
	39.04.04	sinusitis
39.05	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with oropharynx/throat diseases/injuries including:	
	39.05.01	dentalgia and dental abscess
	39.05.02	diseases of oral soft tissue/ Ludwig's angina
	39.05.03	foreign body intrusion
	39.05.04	epiglottitis
	39.05.05	laryngitis
	39.05.06	tracheitis
	39.05.07	oral candidiasis
	39.05.08	peritonsillar abscess
	39.05.09	pharyngitis/tonsillitis
	39.05.10	temporomandibular joint disorders
40.0	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:	
40.01	Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.	
40.02	Review the anatomy and physiology of the cardiovascular and respiratory systems.	
40.03	Contrast the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.	

40.04	Discuss and demonstrate the assessment and management of shock.
40.05	Review the management of external hemorrhage.
40.06	Discuss appropriate fluid resuscitation.
40.07	Review the following for the cardiac arrest victim: 40.07.01 epidemiology 40.07.02 pathophysiology 40.07.03 physiology of blood flow during external chest compressions 40.07.04 resuscitation success/research
40.08	Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.
40.09	Discuss causes, pathophysiology, signs, and symptoms and management of special arrest and peri-arrest conditions, including but not limited to: 40.09.01 electrolyte disorders 40.09.02 toxic exposures 40.09.03 drowning 40.09.04 hypothermia 40.09.05 near-Fatal Asthma 40.09.06 anaphylaxis 40.09.07 trauma 40.09.08 pregnancy 40.09.09 electrical shock and lightning strikes
40.10	Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
40.11	Discuss and demonstrate the assessment and management of internal hemorrhage.
40.12	Review the stages and classifications of hemorrhage.
40.13	Review the pathophysiology and demonstrate the assessment and management of the different types of shock.
40.14	Describe the effects of decreased perfusion at the capillary level.
40.15	Relate pulse pressure changes to perfusion status.
40.16	Relate orthostatic vital sign changes to perfusion status.
40.17	Define and differentiate between compensated and decompensated shock for all types of shock.
40.18	Discuss and differentiate the physiological manifestations of shock across the life span.
41.0	Trauma Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of the trauma patient across the life span. – The student will be able to:

41.01	Review the pathophysiology of the trauma patient.
41.02	Review the components of comprehensive trauma systems and levels of trauma centers.
41.03	Review the considerations for different transportation modes to a trauma center.
41.04	Discuss the kinematics of blunt and penetrating trauma.
41.05	Discuss and describe significant and non-significant mechanism of injury (MOI) and provide examples of each.
41.06	Discuss and demonstrate the application of State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code.
41.07	Review the National Trauma Triage Protocol of Injured Patients.
41.08	Review forming a field impression and utilizing available information to determine a differential diagnosis.
41.09	Review the need for rapid intervention transport of the trauma patient.
42.0	Bleeding: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment and management of bleeding across the life span. – The student will be able to:
42.01	Review the compensatory mechanism in hemorrhagic shock.
42.02	Review the administration of medications to assist in the maintenance of homeostasis.
42.03	Review the maintenance of tissue oxygenation in a bleeding patient.
42.04	Discuss appropriate fluid resuscitation for the patient in hemorrhagic shock.
42.05	Review the different methods/modalities of controlling bleeding.
43.0	Chest Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span. – The student will be able to:
43.01	Review the anatomy and physiology of the organs and structures related to thoracic injuries.
43.02	Review the pathophysiology, signs and symptoms and mechanism of injury (MOI) of the following injuries, including but not limited to:
43.02.01	myocardial injuries
43.02.01.1	pericardial tamponade
43.02.01.2	myocardial contusion
43.02.01.3	myocardial rupture
43.02.02	vascular injury
43.02.02.1.1	aortic dissection
43.02.02.1.2	pulmonary contusion
43.02.03	hemothorax
43.02.04	pneumothorax

43.02.05	hemopneumothorax
43.02.06	cardiac Tamponade
43.02.07	commotio cordis
43.02.08	tracheobronchial disruption
43.02.09	diaphragmatic rupture and injury
43.02.10	tramatic asphyxia
43.02.11	rib fracture
43.02.12	flail segment
43.02.13	sternal fracture
43.02.14	vascular injuries
43.02.15	impaled objects
43.02.16	evisceration/shock
43.03	Discuss monitoring of chest tubes.
43.04	Demonstrate the following techniques of management for thoracic injuries: needle decompression, elective intubation, ECG monitoring, oxygenation, and ventilation
44.0	Abdominal and Genitourinary Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span. – The student will be able to:
44.01	Review the anatomy and physiology of organs and structures related to abdominal injuries.
44.02	Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
44.03	Describe and demonstrate the pathophysiology, signs and symptoms and the assessment and management for, including but not limited to:
44.03.01	pelvic fractures.
44.03.02	solid organ injuries
44.03.03	hollow organ injuries
44.03.04	abdominal vascular injuries
44.03.05	retroperitoneal space (kidneys)
44.03.06	genitourinary system
44.04	Review the psychological considerations associated with genitourinary injuries.
45.0	Orthopedic Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span. – The student will be able to:
45.01	Review the anatomy and physiology of the musculoskeletal system, include the healing process.
45.02	Discuss pathophysiology, signs and symptoms, and MOI for orthopedic trauma.
45.03	Define the different types of orthopedic trauma including fracture classifications.
45.04	List the 6 “P” orthopedic injury assessment.

45.05	Discuss the following management techniques:
45.05.01	heat therapy
45.05.02	cold therapy
45.05.03	splinting
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic trauma including medication administration (analgesics and anxiolytics).
45.07	Discuss the need for assessment of distal pulses, motor, and sensation before and after splinting.
45.08	Review age-associated changes in bones.
45.09	Define luxation and subluxation.
45.10	Explain the rationale for splinting at the scene versus load and go.
45.11	Demonstrate the proper use various splinting materials and devices to include improvised and traction splints.
45.12	Discuss and demonstrate the assessment and management of compartment and crush syndrome:
45.12.01	destination decision
45.12.02	rhabdomyolysis
45.13	Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder, and Achilles.
45.14	Discuss the proper procedure to package an amputated body part for replantation.
46.0	Soft Tissue Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span. – The student will be able to:
46.01	Review anatomy and physiology and identify the major functions of the integumentary system.
46.02	Discuss the pathophysiology of soft tissue injuries and the healing process including:
46.02.01	inflammation
46.02.02	epithelialization
46.02.03	neovascularization
46.02.04	collagen Synthesis
46.02.05	alterations in wound healing
46.02.06	abnormal scar formation
46.03	Describe and demonstrate the assessment and management of various soft tissue injuries.
46.04	Identify types of burn injuries including:
46.04.01	thermal burn
46.04.02	chemical burn
46.04.03	electrical burn
46.04.04	radiation burn

46.05	Describe the depth classification of burn injuries including:
46.05.01	superficial burn
46.05.02	partial-thickness burn
46.05.03	full-thickness burn
46.05.04	other depth classification
46.06	Describe and demonstrate methods for determining body surface area percentage of a burn injury including the “rule of nines”, the “rule of palms”, and other methods.
46.07	Explain how the seriousness of a burn is related to its depth and percentage of body surface area (BSA) involved.
46.08	Review the various management techniques for hemorrhage control.
46.09	Differentiate among the types of injuries requiring the use of occlusive versus non-occlusive dressing.
46.10	Demonstrate the proper use of any Morgan□type lens for irrigation of the eye.
46.11	Demonstrate the assessment and management of specific burn injuries including:
46.11.01	thermal
46.11.02	inhalation
46.11.03	chemical
46.11.04	electrical
46.11.05	radiation
46.12	Describe the pathophysiologic complications and systemic complications of a burn injury.
46.13	Discuss comorbidities in burn patients.
46.14	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management.
46.15	Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.
46.16	Discuss appropriate fluid resuscitation for burn patients.
47.0	Head, Face, Neck, and Spine: Demonstrate a fundamental depth, foundational breadth of knowledge of head, face, neck, and spine trauma across the life span. – The student will be able to:
47.01	Discuss types of and potential complications of facial injuries.
47.02	Discuss pathophysiology, signs and symptoms, assessment and management, and a field impression for injuries to the following areas:
47.02.01	eye(s)
47.02.02	nose
47.02.03	throat/neck
47.02.04	face
47.02.05	mouth

47.02.06	ear(s)
47.03	Distinguish between an open and closed head injury.
47.04	Define and explain the process involved with increasing ICP.
47.05	Describe and demonstrate the assessment and general management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.
47.06	Discuss the pathophysiology, signs and symptoms, and assessment and management for a patient for each of the following conditions:
47.06.01	skull fracture
47.06.02	cerebral contusion
47.06.03	intracranial hemorrhage
47.06.04	epidural, subdural, intracerebral, and subarachnoid
47.06.05	perforated tympanic membranes
47.06.06	orbital fracture
47.06.07	mandibular fracture
47.07	Review various methods for stabilization and removal of a helmet.
48.0	Nervous System Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of nervous system trauma across the life span. – The student will be able to:
48.01	Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.
48.02	Discuss pathophysiology, signs and symptoms, assessment, and management of the following nervous system injury including:
48.02.01	Cauda Equine syndrome
48.02.02	peripheral nerve injuries
48.02.03	intracerebral hemorrhage
48.02.04	cranial fractures
48.02.05	brain tissue injuries
48.02.06	spinal cord injuries
48.02.07	Brown-Sequard Syndrome
48.02.08	anterior cord syndrome
48.02.09	central cord syndrome
48.02.10	spinal shock
48.03	Discuss the mechanism of injury which would result in a nervous system injury.
48.04	Review the rationale for and potential for motion restriction for the entire spine when a cervical spine injury is suspected
48.05	Discuss the research involving the management of nervous system injuries and patient management.
49.0	Special Considerations in Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of special considerations in trauma across the life span. – The student will be able to:

- | | |
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| 49.01 | Integrate the assessment and management differences associated with the following special populations: |
| 49.01.01 | pregnancy |
| 49.01.02 | pediatric |
| 49.01.03 | geriatric |

Course Number: EMS0212

Occupational Completion Point: A

Paramedic III – 426 hours – SOC Code 29-2041

50.0 Environmental Emergencies: Demonstrate a complex depth, comprehensive breadth of knowledge of environmental emergencies across the life span. – The student will be able to:

50.01 Discuss the pathophysiology, signs and symptoms, assessment and management and MOI of the following:

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|----------|--------------------------------------|
| 50.01.01 | drowning and water related incidents |
| 50.01.02 | temperature-related illness |
| 50.01.03 | bites and envenomation |
| 50.01.04 | diving injuries |
| 50.01.05 | lightning (electrical) injury |
| 50.01.06 | high altitude illness |

50.02 Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.

50.03 Review several methods of temperature monitoring.

50.04 Describe the general process of thermal regulation, including substances used and wastes generated.

50.05 Define fever and discuss its pathophysiologic mechanism.

50.06 Discuss the role of fluid therapy in the treatment of temperature related emergencies.

50.07 Review the gas laws related to the pathophysiology of injury in a submersion emergency.

50.08 Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.

50.09 Differentiate among the various treatments and interventions for the management of diving accidents.

50.10 Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.

51.0 Multi-Systems Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of multi-system trauma and blast injuries. – The student will be able to:

51.01 Review the priority of care in the multisystem trauma patient.

51.02 Explain which ALS interventions should occur prior to a transport decision and during transport.

52.0	Obstetrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the obstetric patient within the scope of practice of the paramedic. – The student will be able to:
52.01	Review the anatomy and physiology of the reproductive system.
52.02	Define the stages of labor and discuss how to assess them.
52.03	Differentiate between cephalic and abnormal delivery.
52.04	Describe the management of a patient with pre-delivery emergencies.
52.05	Discuss and demonstrate the patient care for all stages of labor in a cephalic delivery for the mother and the newborn.
52.06	Describe the procedures for handling complications of delivery.
52.07	Describe the management of the mother post-delivery.
52.08	Demonstrate the procedures for handling complications of pregnancy including per-eclampsia and high risk.
52.09	Describe the management of the mother post-delivery.
52.10	Discuss and demonstrate the patient care measures for all stages of labor in abnormal deliveries for the mother and the newborn.
52.11	Describe special considerations when meconium is present in amniotic fluid or during delivery.
53.0	Neonatal Care: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the neonatal patient within the scope of practice of the paramedic. – The student will be able to:
53.01	Review the term neonate.
53.02	Identify antepartum and intrapartum factors that can affect the neonate.
53.03	Discuss pulmonary perfusion and asphyxia.
53.04	Calculate the Apgar score given various neonate situations.
53.05	Review resuscitation equipment and procedures for the neonate
53.06	Determine when an orogastric tube should be inserted during positive-pressure ventilation.
53.07	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
53.07.01	apnea
53.07.02	bradycardia
53.07.03	acidosis
53.07.04	pneumothorax
53.07.05	meconium-stained
53.07.06	low blood volume

53.07.07	dysphemistic hernia
53.07.08	respiratory distress
53.07.09	respiratory depression secondary to narcotics
53.07.10	low birth weight
53.07.11	seizures
53.07.12	hypoglycemia
53.07.13	diarrhea
53.07.14	jaundice
53.07.15	fever
53.07.16	hypothermia
53.07.17	birth injuries
53.07.18	cardiac conditions
53.08	Discuss post arrest management of the neonate.
53.09	Discuss vascular access cannulation techniques for a newborn including umbilical vein/artery access.
54.0	Pediatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the pediatric patient within the scope of practice of the paramedic. – The student will be able to:
54.01	Discuss key anatomical, physiological, and developmental characteristics of infants and children and their implications.
54.02	Review and demonstrate techniques for successful assessment and treatment of infants and children.
54.03	Review airway and ventilatory considerations and procedures for pediatric patients.
54.04	Discuss the indications and methods for gastric decompression for infants and children.
54.05	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
54.05.01	altered level of consciousness
54.05.02	trauma
54.05.03	hypo-perfusion
54.05.04	respiratory distress/failure
54.05.05	cardiac dysrhythmia
54.05.06	neurological emergency
54.05.07	abuse/neglect
54.05.08	SUIDS
54.05.09	FABO
54.05.10	respiratory emergencies
54.05.11	congenital heart disease
54.05.12	hydrocephalus/VP shunts
54.06	Discuss the appropriate procedure and equipment for vascular and intraosseous access.
54.07	Review basic cardiac life support (CPR) guidelines for infants and children.

54.08	Integrate advanced life support skills with basic cardiac life support for infants and children.
54.09	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.
54.10	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
54.11	Discuss the parent/caregiver responses to the death of an infant or child.
54.12	Discuss and demonstrate the use of a length-based resuscitation tape and other methods for determining equipment sizes, drug doses, and other pertinent information for a pediatric patient.
54.13	Discuss proper placement of a gastric tube in infants and children.
54.14	Review appropriate routes and techniques for medication administration.
54.15	Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
55.0	Geriatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the geriatric patient within the scope of practice of the paramedic. – The student will be able to:
55.01	Review and discuss the term geriatrics
55.02	Review the anatomy, physiology, and pathophysiology of the geriatric patient.
55.03	Discuss common emotional and psychological concerns and conditions of the geriatric patient.
55.04	Discuss the importance of fall prevention with the geriatric patient.
55.05	Describe principles that should be employed when assessing and communicating with the geriatric patient.
55.06	Describe the common causes, assessment and management of the geriatric patient with a medical, trauma, or psychosocial complaint.
55.07	Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
55.08	Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
56.0	Patients with Special Challenges: Demonstrate a complex depth, comprehensive breadth of knowledge of management of the patient with special challenges within the scope of practice of the paramedic across the life span. – The student will be able to:
56.01	Discuss the special considerations required when providing emergency care to patients with:
56.01.01	abuse/neglect of vulnerable populations
56.01.02	homelessness
56.01.03	poverty
56.01.04	bariatrics
56.01.05	tech dependent
56.01.06	hospice/terminally ill
56.01.07	tracheostomy

56.01.08	home care
56.01.09	sensory deficit/loss
56.01.10	developmental disability
56.02	Discuss special considerations regarding common medical devices used in the home care of patients with special challenges including:
56.02.01	respiratory devices
56.02.02	cardiac devices
56.02.03	gastro-urinary devices
56.02.04	central & peripheral IV catheters
56.03	Describe home care and the types of patients it serves and the services it encompasses.
56.04	Describe the characteristics associated with the profile of the typical abuser of:
56.04.01	domestic abuser
56.04.02	elder abuser
56.04.03	child abuser
56.05	Discuss the role of the Paramedic as a patient advocate for vulnerable populations.
56.06	Differentiate between hospice/palliative care and curative care.
56.07	Describe paraplegia/quadriplegia.
56.08	Describe the various etiologies of mental illness.
56.09	Recognize the presenting signs of the following:
56.09.01	autism spectrum
56.09.02	developmental disability
56.09.03	down's syndrome
56.10	Describe the following diseases/illnesses and identify each of their possible presenting signs, including but not limited to:
56.10.01	arthritis
56.10.02	cancer
56.10.03	cerebral palsy
56.10.04	cystic fibrosis
56.10.05	multiple sclerosis
56.10.06	muscular dystrophy
56.10.07	myasthenia gravis
56.10.08	poliomyelitis
56.10.09	spina bifida,
56.10.10	patients with a previous head injury
56.10.11	mental illness
56.11	Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
56.12	Describe the access and discuss indwelling catheters, implanted central IV ports and central line monitoring.

56.13	Describe complications of assessing each of the airway, vascular access, and GI/GU devices.
56.14	Identify and describe the failure of wound drains.
56.15	Review the rights of the terminally ill.
56.16	Demonstrate proper tracheotomy care.
56.17	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.
57.0	Principles of Safely Operating a Ground Ambulance: Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport. – The student will be able to:
57.01	Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
58.0	Incident Management: Demonstrate a complex depth, comprehensive breadth of knowledge of establishing and working within the incident management system. – The student will be able to:
58.01	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.
59.0	Multiple Casualty Incidents: Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident. – The student will be able to:
59.01	Review the EMT standards and benchmarks for Multiple Casualty Incidents.
60.0	Air Medical: Demonstrate a complex depth, comprehensive breadth of knowledge of air medical transport risks, needs and advantages. – The student will be able to:
60.01	Describe the advantages and disadvantages of air medical transport.
60.02	Identify appropriate reasons for the use of air medical for emergency patient transport.
60.03	Describe the risks involved with the use of air medical transport.
60.04	Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response.
60.05	Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel.
61.0	Vehicle Extrication: Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools. – The student will be able to:
61.01	Review the EMT standards and benchmarks for Vehicle Extrication.
62.0	Hazardous Materials Awareness: Demonstrate a simple depth, simple breadth of knowledge 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	Review the EMT standards and benchmarks for Hazardous Materials Awareness.
63.0	Mass Casualty Incidents due to Terrorism and Disasters: Demonstrate a simple depth, simple breadth of knowledge of risks and responsibilities of operating on the scene of a natural or man- made disaster. – The student will be able to:

63.01 Review the EMT standards and benchmarks for Mass Casualty Incidents.

Florida Department of Education
Student Performance Standards

Program Title: Paramedic - ATD
 ATD CIP Number: 0351090417
 SOC Code(s): 29-2041

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

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, foundational breadth of knowledge of the History of EMS and a complex depth, comprehensive breadth of knowledge 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 Florida.
01.04	Explain 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 certification 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 and demonstrate 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 role of the EMS physician in providing medical direction.
01.12	Discuss examples of local protocols.

01.13	Describe the relationship between a physician on the scene, the paramedic on the scene, and the EMS physician providing on-line medical direction.
01.14	Describe the role of the paramedic relative to the safety of the crew, the patient, and bystanders.
01.15	Assess personal practices relative to the responsibility for personal safety, the safety of the crew, the patient, and bystanders.
01.16	Advocate the need for injury prevention.
01.17	Discuss the diverse types of EMS services and differences in their provision of care.
02.0	Research: Demonstrate a fundamental depth, foundational breath of knowledge of research principles to interpret literature and advocate evidence-based practice. – The student will be able to:
02.01	Interpret results and reach conclusions.
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 knowledge 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 the role of risk assessments and warning signs in cancer and cardiovascular disease.
03.05	Differentiate between 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 and resources 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	Discuss the need to treat each patient as an individual, with respect and dignity.

03.15	Discuss the need to respect the emotional needs of dying patients and their families.
03.16	Discuss the paramedics' role in performing community risk assessment.
04.0	Documentation: Demonstrate a complex depth, comprehensive breadth of knowledge 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	Demonstrate proper use of medical terminology.
04.03	Record 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 PCR (patient care record).
05.0	EMS Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 for an emergency response and transport.
05.03	Discuss the importance of proper terminology when communicating during an emergency.
05.04	Discuss factors that impede or enhance effective verbal and written communications.
05.05	Discuss the legal implications of written communications.
05.06	Identify the components of the local EMS communications system and describe their function and use.
05.07	Identify and differentiate among the following communications systems: simplex, multiplex, duplex, trunked, digital communications, and cellular telephone.

05.08	Describe the functions and responsibilities of the Federal Communications Commission.
05.09	Describe how emergency medical dispatch (EMD) functions as an integral part of the EMS system.
05.10	List appropriate information to be gathered by the telecommunicator.
05.11	Demonstrate an organized and concise radio transmission
05.12	Demonstrate an organized and concise patient report upon transfer of care.
06.0	Therapeutic Communication: Demonstrate a complex depth, comprehensive breadth of knowledge 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 difficult patients.
06.05	Summarize developmental considerations across the life span 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 knowledge 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	Discuss State of Florida and Federal special reporting situations including:
07.02.01	abuse
07.02.02	sexual assault
07.02.03	gunshot and knife wounds
07.02.04	communicable disease
07.02.05	animal bites
07.03	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.
07.04	Differentiate between the scope of practice and the standard of care for paramedic practice.
07.05	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.
07.06	Review the four elements that must be present in order to prove negligence.

07.07	Review the legal concept and limitations of immunity, including Good Samaritan statutes and governmental immunity, as it applies to the paramedic.
07.08	Review the importance and necessity of patient confidentiality and the standards for maintaining patient confidentiality that apply to the paramedic.
07.09	Review consent to include expressed, informed, implied, and involuntary.
07.10	Demonstrate appropriate patient management techniques in a refusal of care situation.
07.11	Discuss the issues of abandonment, negligence, false imprisonment, and battery and their implications to the paramedic.
07.12	Describe the actions that the paramedic should take to preserve evidence at a crime or accident scene.
07.13	Describe the importance of providing accurate communication (oral and written) in substantiating an incident.
07.14	Describe the criteria necessary to honor an advance directive in Florida.
08.0	Anatomy and Physiology: Integrate a complex depth, comprehensive breadth of knowledge 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.
08.02	Demonstrate comprehensive knowledge of anatomy and physiology as it applies to paramedic practice.
09.0	Medical Terminology: Integrate a comprehensive knowledge in the use of 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 medical terminology.
09.02	Demonstrate a comprehensive knowledge of medical terminology as it applies to paramedic practice.
10.0	Pathophysiology: Demonstrate a complex 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	Define and discuss the pathogenesis, signs, and symptoms of distributive, obstructive, neurogenic, anaphylactic, and septic shock.
10.04	Discuss multiple organ dysfunction syndrome (MODS).
10.05	Describe alterations in cells and tissues including cellular adaptation, cellular injury, manifestation of cellular injury, and cellular death/necrosis.
10.06	Describe genetics and familial diseases and the role they play in pathophysiology.
10.07	Describe the self–defense mechanisms of inflammation and immune responses and their relationships to pathophysiology.

11.0	Life Span Development: Integrate the 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 across the life span.
12.0	Public Health: Demonstrate a 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.
12.02	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 of knowledge 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 practice pertinent to the administration of medications.
13.10	List and describe available drug forms.
13.11	List and differentiate all methods and routes of medication administration covered in the current National EMS Scope of Practice Model.
13.12	Describe the process of: <ul style="list-style-type: none"> 13.12.01 pharmacokinetics 13.12.02 pharmacodynamics 13.12.03 theories of drug action 13.12.04 drug-response relationship 13.12.05 factors altering drug responses 13.12.06 predictable drug responses 13.12.07 iatrogenic drug responses 13.12.08 unpredictable adverse drug responses
13.13	Discuss the prevention, recognition and management of adverse medication reactions.

13.14	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 knowledge 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 practice pertinent to the administration of medications.
14.03	Review mathematical principles and demonstrate equations necessary 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	Review 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	Describe the indications, equipment needed, techniques used, precautions, and general principles of administering medications by the following routes: 14.11.01 inhalation route 14.11.02 gastric tube 14.11.03 rectal route
14.12	Differentiate among the different percutaneous routes of medication administration.
14.13	Describe the purpose, equipment needed, techniques used, complications, and general principles for obtaining a blood sample.
14.14	Obtain venous and capillary blood for testing and discuss blood chemistry and normal values.
14.15	Demonstrate principles of medical asepsis in the administration of medications.
14.16	Demonstrate the procedure for disposal of contaminated items and supplies.
14.17	Demonstrate cannulation of peripheral, intravenous and/or external jugular veins.
14.18	Demonstrate intraosseous access.

14.19	Demonstrate administration of medications by the following routes:
14.19.01	oral
14.19.02	sublingual
14.19.03	buccal
14.19.04	auto-injector
14.19.05	inhalation route
14.19.06	intranasal route
14.19.07	subcutaneous route
14.19.08	intramuscular route
14.19.09	intravenous route
14.19.10	intraosseous route
15.0	Emergency Medications: Demonstrate a complex depth, comprehensive breadth of knowledge of emergency medications within the scope of practice for the paramedic. – The student will be able to:
15.01	Discuss 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: Demonstrate a complex depth, comprehensive breadth of knowledge of airway management within the scope of practice of the paramedic across the life span. –The student will be able to:
16.01	Explain the primary objective of airway maintenance.
16.02	Explain the differences in airway anatomy.
16.03	Define, identify and describe a tracheostomy, laryngectomy, stoma, and tracheostomy tube.
16.04	Describe the special considerations in airway management and ventilation for the pediatric patient.
16.05	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for rapid sequence intubation with neuromuscular blockade.
16.06	Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation.
16.07	Describe the indications, contraindications, advantages, disadvantages, complications and equipment for sedation during intubation.
16.08	Describe the indications, contraindications, advantages, disadvantages and complications for performing cricothyrotomy.
16.09	Demonstrate the procedure for percutaneous cricothyrotomy.
16.10	Review the function of the structures located in the upper and lower airway.

16.11	Demonstrate effective techniques of advanced airway management of the following:
16.11.01	orotracheal,
16.11.02	nasotracheal,
16.11.03	subglottic,
16.11.04	supraglottic,
79.22.05	digital intubation
16.12	Describe and demonstrate methods of assessment for confirming correct placement of any airway device.
16.13	Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for extubation.
17.0	Respiration: Demonstrate a complex depth, comprehensive breadth of knowledge of respiration within the scope of practice of the paramedic across the life span. –The student will be able to:
17.01	List the concentration of gases that comprise atmospheric air.
17.02	Describe the measurement of oxygen in the blood.
17.03	Describe the measurement of carbon dioxide in the blood.
17.04	Describe peak expiratory flow.
17.05	Describe factors that cause decreased oxygen concentrations in the blood.
17.06	Describe the factors that increase and decrease carbon dioxide production in the body.
17.07	Define pulsus paradoxus.
17.08	Describe the indications, contraindications, advantages, disadvantages, complications, liter flow range, and concentration of delivered oxygen for supplemental oxygen delivery devices.
17.09	Review the physiology of ventilation and respiration.
18.0	Ventilation: Demonstrate a complex breadth, comprehensive breadth of knowledge of ventilatory assessment and management across the life span. –The student will be able to:
18.01	Perform and interpret pulse oximetry and capnography.
18.02	Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV), BIPAP/CPAP, AND PEEP devices.
19.0	Scene Size-Up: Demonstrate a complex depth, comprehensive breadth of knowledge of scene management. –The student will be able to:
19.01	Describe common hazards found at the scene of a trauma and a medical patient.
19.02	Discuss common mechanisms of injury/ nature of illness.
19.03	Explain the rationale for crew members to evaluate scene safety prior to entering.

19.04	Demonstrate the scene-size-up.
20.0	Primary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge 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 levels of responsiveness using AVPU.
20.04	Discuss and demonstrate methods of assessing the airway across the life span.
20.05	Describe and demonstrate methods used for assessing if a patient is breathing across the life span.
20.06	Differentiate between a patient with adequate and inadequate breathing.
20.07	Describe and demonstrate the methods used to obtain a pulse across the life span.
20.08	Discuss and demonstrate assessing the patient for external bleeding.
20.09	Describe and demonstrate the assessment and interruption of skin color, temperature, moisture, and capillary refill across the life span.
20.10	Explain the reasons for prioritizing a patient for care and transport.
20.11	Describe when it is appropriate to expose the patient completely.
20.12	Differentiate between critical life-threatening, potentially life-threatening, and non-life-threatening patient presentations.
21.0	History Taking: Demonstrate a complex depth, comprehensive breath of knowledge of the components of history taking. –The student will be able to:
21.01	Determine and investigate the chief complaint.
21.02	Describe the components of the patient history.
21.03	Explain the importance of obtaining a SAMPLE and OPQRST history.
21.04	Acknowledge the feelings patients experience during assessment.
21.05	Discuss the value of obtaining a family and social history.
21.06	Describe examples of different techniques the paramedic may use to obtain information from patients, family, or bystanders during the history taking process.
22.0	Secondary Assessment: Demonstrate a complex depth, comprehensive breadth of knowledge of techniques used for a secondary assessment across the life span. –The student will be able to:
22.01	Review EMT standards and benchmarks for secondary assessment.

22.02	Describe the techniques of inspection, palpation, percussion, and auscultation.
22.03	Discuss the limitations of conducting a physical exam in the out-of-hospital environment.
22.04	Demonstrate the examination of the patient including all major body systems and anatomical regions.
22.05	Distinguish the importance of abnormal assessment findings in all the major body systems and anatomical regions.
22.06	Describe the evaluation of patient's perfusion status based on findings in the initial assessment.
22.07	State the reasons for performing a rapid trauma assessment.
22.08	Discuss the reason for performing a focused history and physical exam.
22.09	Discuss appropriate gender and cultural considerations regarding assessment.
22.10	Discuss medical identification devices/ systems.
23.0	Monitoring Devices: Demonstrate a fundamental depth, foundational breadth of knowledge of monitoring devices within the scope of practice of the paramedic. –The student will be able to:
23.01	Describe the purpose, indications, procedure, normal findings, and limitations of the following patient monitoring technologies, including but not limited to:
23.01.01	continuous ECG monitoring
23.01.02	12-Lead ECG
23.01.03	capnography (wave form)
23.01.04	co-oximetry
23.01.05	methemoglobin monitoring
23.01.06	total hemoglobin
23.01.07	basic blood chemistry
23.01.08	ultrasound
23.01.09	other devices identified at the EMT level
23.02	Demonstrate the use of the following patient monitoring technologies, including but not limited to:
23.02.01	continuous ECG monitoring
23.02.02	12-Lead ECG
23.02.03	capnography (wave form)
23.02.04	other devices identified at the EMT level
24.0	Reassessment: Demonstrate a complex depth, comprehensive breadth of knowledge of how and when to perform a reassessment for all patient situations. –The student will be able to:
24.01	Describe the components of reassessment and demonstrate the skills involved.
24.02	Discuss the reasons for repeating the primary 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 reassessment of patients across the life span.
25.0	Medical Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of medical complaints. –The student will be able to:
25.01	Identify factors that complicate patient assessment including:
25.01.01	scene safety
25.01.02	environmental factors
25.01.03	chief complaint
25.01.04	paramedic preconceptions
25.01.05	distracting injuries
25.01.06	tunnel vision
25.01.07	patient cooperation
25.01.08	paramedic attitude
25.02	Discuss forming a field impression and utilizing available information to determine a different diagnosis.
26.0	Neurology: Demonstrate a complex depth, comprehensive breadth of knowledge of neurologic disorders/emergencies across the life span. – The student will be able to:
26.01	Identify the risk factors associated with nervous system dysfunction.
26.02	Review the anatomy and physiology of the organs and structures related to nervous system.
26.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with the following neurological conditions, including but not limited to:
26.03.01	coma
26.03.02	altered mental status
26.03.03	seizures
26.03.04	syncope
26.03.05	transient ischemic attack
26.03.06	stroke and intracranial hemorrhage
26.03.07	degenerative neurologic diseases
26.03.08	chronic alcoholism
26.03.09	back disorders
26.04	Describe and differentiate the major types of seizures.
26.05	Describe the types of stroke.
26.06	Describe the significance of the prevalence of neurologic disorders in the United States.
26.07	Discuss screen tools for assessment of stroke and large vessel occlusion.
26.08	Demonstrate the use of stroke screening tools and appropriate decision making regarding transport destination for a stroke patient.

27.0	Abdominal and Gastrointestinal Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge of abdominal and gastrointestinal disorders/emergencies across the life span. – The student will be able to:
27.01	Review the anatomy and physiology of the organs and structures related to gastrointestinal diseases.
27.02	Differentiate between hemorrhagic and non-hemorrhagic causes of abdominal pain.
27.03	Describe the technique for performing a comprehensive physical examination on a patient complaining of abdominal pain.
27.04	Discuss the pathophysiology, signs, and symptoms, and demonstrate the assessment, and management of patients with the following abdominal and gastrointestinal disorders, including but not limited to:
27.04.01	both upper and lower gastrointestinal bleeding
27.04.02	acute gastroenteritis.
27.04.03	colitis.
27.04.04	diverticulitis.
27.04.05	appendicitis.
27.04.06	peptic ulcer disease.
27.04.07	bowel obstruction.
27.04.08	Crohn's disease.
27.04.09	pancreatitis.
27.04.10	esophageal varices.
27.04.11	hemorrhoids.
27.04.12	cholecystitis.
27.04.13	acute hepatitis.
27.05	Identify patients at risk for gastrointestinal emergencies.
27.06	Demonstrate how to auscultate the abdomen to assess for diminished, absent or abnormal bowel sounds.
28.0	Immunology: Demonstrate a complex depth, comprehensive breadth of knowledge of immunology disorders/emergencies across the life span. – The student will be able to:
28.01	Define and differentiate:
28.01.01	allergic reaction.
28.01.02	anaphylaxis
28.01.03	antigens
28.01.04	antibodies
28.01.05	anaphylactoid reaction
28.02	Review the anatomy and physiology of the organs and structures related to anaphylaxis.
28.03	Describe the prevention of anaphylaxis and appropriate patient education.
28.04	Review the pathophysiology of allergy and anaphylaxis.
28.05	Describe the common methods of entry of allergens into the body.

28.06	Review common antigens most frequently associated with anaphylaxis.
28.07	Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis and allergic reaction.
29.0	Infectious Diseases: Demonstrate a complex depth, comprehensive breadth of knowledge of assessment and management of a patient who may have an infectious disease across the life span – The student will be able to:
29.01	Review EMT standards and benchmarks for infectious disease.
29.02	Review the specific anatomy and physiology pertinent to infectious and communicable diseases.
29.03	Describe the steps of an infectious process.
29.04	Describe and differentiate infectious agents, including bacteria, viruses, fungi, protozoans, and helminths (worms).
29.05	Review characteristics of the immune system.
29.06	Perform an assessment of a patient with an infectious/communicable disease.
29.07	Effectively and safely manage a patient with an infectious/communicable disease.
29.08	Review public health principles related to infectious disease.
29.09	Review the roles of local, state, and federal agencies involved in infectious disease surveillance and outbreaks.
29.10	Describe the interactions of the agent, host, and environment as determining factors in disease transmission.
29.11	Describes the EMS professional's responsibilities as well as their rights under the Ryan White Act.
29.12	Discuss the pathophysiology, signs, symptoms, assessment, and management and risk factors of significant health concerns.
29.13	Discuss the characteristics of, and organisms associated with, febrile and afebrile respiratory disease.
29.14	Describe the EMS provider's role in patient education and preventing disease transmission.
29.15	Review the pathophysiology, risk factors, assessment, and prehospital management of sepsis/systemic inflammatory response syndrome (SIRS).
30.0	Endocrine Disorders: Demonstrate a complex depth, comprehensive breadth of knowledge in endocrine disorders/emergencies across the life span. – The student will be able to:
30.01	Identify the risk factors related to disorders of the endocrine system.
30.02	Review the anatomy and physiology of organs and structures related to endocrinologic diseases.

30.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following endocrinologic emergencies:
30.03.01	hypoglycemia
30.03.02	hyperglycemia
30.03.03	diabetic ketoacidosis
30.03.04	Cushing's syndrome
30.03.05	adrenal insufficiency
30.03.06	pituitary disorders
30.03.07	thyroid disorders
31.0	Psychiatric: Demonstrate a complex depth, comprehensive breadth of knowledge regarding the assessment and management of psychiatric disorders/emergencies across the life span. – The student will be able to:
31.01	Differentiate among behavior, psychiatric disorders, and behavioral emergencies.
31.02	Discuss the pathophysiology of common psychiatric disorders and behavioral emergencies.
31.03	Discuss the general factors that may cause an alteration in a patient's behavior.
31.04	Discuss the factors/signs or symptoms of various psychiatric emergencies to include suicide.
31.05	Manage a behavioral emergency scenario applying knowledge of medical/legal Florida Statutes.
31.06	Describe and demonstrate the assessment and management of the patient 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 emergencies.
31.09	Explain the importance of provider behavior and communication in the care of a patient with a behavioral emergency.
31.10	Describe and demonstrate methods of restraint that may be used in the management of a patient with a behavioral emergency and possible legal implication.
31.11	List the risk factors (including behaviors) for suicide.
32.0	Cardiovascular: Demonstrate a complex depth, comprehensive breadth of knowledge of cardiovascular disorders/emergencies across the life span. – The student will be able to:
32.01	Describe the epidemiology, incidence, morbidity and mortality of cardiovascular disease.
32.02	Identify the risk factors of coronary artery disease.
32.03	Review the anatomy and physiology of the heart and circulatory system.
32.04	Discuss the electrophysiology of the heart.
32.05	Discuss and demonstrate ECG monitoring, 12 Lead placement, acquisition, and interpretation.

32.06	Define and give examples of positive and negative inotropes, chronotropes and dromotropes.
32.07	Identify the normal characteristics of the point of maximal impulse (PMI).
32.08	Discuss the normal and abnormal heart sounds and how they relate to hemodynamic events in the cardiac cycle.
32.09	Describe a systematic approach to the analysis and interpretation of cardiac dysrhythmias.
32.10	Describe the conditions of pulseless electrical activity.
32.11	Compare and contrast electrotherapy to include pacing.
32.12	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients following conditions including the development of a treatment plan, including but not limited to:
32.12.01	angina
32.12.02	myocardial infarction STEMI/Non-STEMI
32.12.03	congestive heart failure
32.12.04	cardiac tamponade
32.12.05	cardiogenic shock
32.12.06	hypertension and acute hypertensive states
32.12.07	cardiac arrest
32.12.08	vascular disorders
32.12.09	hypertrophic cardiomyopathies
32.12.10	infectious diseases of the heart
32.12.11	congenital abnormalities
32.13	List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris.
32.14	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.
32.15	List the characteristics of a patient eligible for thrombolytic therapy.
32.16	Define the term acute pulmonary edema and describe its relationship to left ventricular failure.
32.17	Discuss preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure.
32.18	Identify non-cardiac causes of cardiac arrest.
32.19	Discuss the components of post resuscitation care including how to determine the return of spontaneous circulation (ROSC).
32.20	Identify circumstances and situations where resuscitation efforts would not be initiated or would be terminated.

32.21	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:
32.21.01	cardiopulmonary resuscitation
32.21.02	defibrillation
32.21.03	synchronized cardioversion
32.21.04	transcutaneous pacing
33.0	Toxicology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of toxicology emergencies across the life span. – The student will be able to:
33.01	Define and differentiate among toxicology, poisoning, and overdose.
33.02	Describe the pathophysiology and signs and symptoms of the following toxicological emergencies, including but not limited to:
33.02.01	food poisoning
33.02.02	carbon monoxide poisoning
33.02.03	cyanide poisoning
33.02.04	exposure to acid or alkaline substance
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 substances
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
33.02.15	Opioid overdose
33.02.16	Organa phosphate overdose
33.03	Discuss the role of the Poison Control Center with the nationwide contact number 800-222-1222 in the United States.
33.04	Review various ways that toxins enter the body.
33.05	Discuss and demonstrate the assessment and management for the patient with a toxicological emergency.
33.06	Explain the rationale for contacting medical direction early in the prehospital management of a patient with a toxicological emergency.
33.07	Review the following for Narcan (naloxone):
33.07.01	generic and trade names
33.07.02	medication forms
33.07.03	dose
33.07.04	administration
33.07.05	contraindications

34.0	Respiratory: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment and management of respiratory disorders/emergencies across the life span. – The student will be able to:
34.01	Discuss the epidemiology, morbidity, and mortality of respiratory illness in the United States.
34.02	Review hypoventilation and hyperventilation, and outline the conditions with which they are often associated.
34.03	Review the anatomy, physiology and functions of the respiratory system.
34.04	Discuss those factors that contribute to the formation of a general impression and degree of respiratory distress.
34.05	Identify breathing patterns that are associated with respiratory distress and neurologic insults and their correlation with the signs of increased work of breathing.
34.06	Review between normal and abnormal breath/lung sounds and its physiologic significance.
34.07	Explain the concepts of hypoxic drive and auto-PEEP as they relate to the COPD patient.
34.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following respiratory conditions, including but not limited to:
34.08.01	pulmonary infections (upper and lower airway)
34.08.02	atelectasis
34.08.03	anatomic or foreign body obstruction
34.08.04	aspiration
34.08.05	asthma
34.08.06	emphysema
34.08.07	chronic bronchitis
34.08.08	spontaneous pneumothorax
34.08.09	pleural effusion
34.08.10	pulmonary embolism
34.08.11	cancer
34.08.12	toxic inhalations
34.08.13	pulmonary edema
34.08.14	acute respiratory distress syndrome (ARDS)
34.08.15	pneumonia
34.08.16	neoplasms of the lung
34.08.17	hyperventilation syndrome
35.0	Hematology: Demonstrate a complex depth, foundational breadth of knowledge of the assessment, and management of hematology disorders/emergencies across the life span – The student will be able to:
35.01	Identify the role of heredity in the risk for hematologic disorders.
35.02	Review the anatomy and physiology of the hematopoietic system.
35.03	Describe volume and volume-control related to the hematopoietic system.

35.04	Explain the significance of the hematocrit with respect to red cell size and number.
35.05	Explain the correlation of the RBC count, hematocrit and hemoglobin values.
35.06	Recognize medications used to decrease the risk of thrombosis.
35.07	Identify blood groups.
35.08	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with the following conditions, including but not limited to:
35.08.01	anemia
35.08.02	leukemia
35.08.03	lymphomas
35.08.04	polycythemia
35.08.05	disseminated intravascular coagulopathy
35.08.06	hemophilia
35.08.07	sickle cell disease
35.08.08	multiple myeloma
35.08.09	leukopenia/neutropenia
35.08.10	leukocytosis
35.08.11	thrombocytosis
35.08.12	thrombocytopenia
35.08.13	transfusion complications
36.0	Genitourinary/Renal: Demonstrate a complex depth, comprehensive breadth of knowledge of genitourinary and renal emergencies across the life span. – The student will be able to:
36.01	Describe the epidemiology, incidence, morbidity, mortality, and risk factors of urological emergencies.
36.02	Review the anatomy and physiology of the organs and structures related to urogenital diseases.
36.03	Discuss referred pain and visceral pain as it relates to urology.
36.04	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients of the following urologic and renal conditions, including but not limited to:
36.04.01	acute renal failure
36.04.02	chronic renal failure
36.04.03	complications related to hemodialysis and peritoneal dialysis.
36.04.04	renal calculi
36.04.05	priapism
36.04.06	testicular torsion
36.04.07	urinary tract infection
36.05	Review fluids, electrolytes, and acid based disturbances.

37.0	Gynecology: Demonstrate a complex depth, comprehensive breadth of knowledge of the assessment findings and the management of gynecology disorders/emergencies across the life span. – The student will be able to:
37.01	Review anatomy and physiology of the female reproductive system.
37.02	Identify the normal events of the menstrual and ovarian cycle.
37.03	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment, and management of patients with specific gynecological emergencies, including but not limited to:
37.03.01	infection (including pelvic inflammatory disease, Bartholin's abscess, and vaginitis/ vulvovaginitis)
37.03.02	ovarian cyst and ruptured ovarian cyst
37.03.03	ovarian torsion
37.03.04	endometriosis
37.03.05	dysfunctional uterine bleeding
37.03.06	prolapsed uterus
37.03.07	vaginal foreign body
37.03.08	vaginal hemorrhage
37.04	Describe the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information.
37.05	Discuss 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, foundation breadth of knowledge of the assessment and management of non-traumatic fractures across the life span. – The student will be able to:
38.01	Review the anatomy and physiology of the musculoskeletal system
38.02	Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with musculoskeletal emergencies, including but not limited to:
38.02.01	osteomyelitis and tumors
38.02.02	disc disorders, lower back pain (cauda equine syndrome, sprain, and strain.)
38.02.03	joint abnormalities
38.02.04	muscle abnormalities
38.02.05	overuse syndrome
38.02.06	soft tissue infections
39.0	Diseases of the Eyes, Ears, Nose, and Throat: Demonstrate a fundamental depth, foundational breadth of knowledge of the assessment and management of common or major diseases of the eyes, ears, nose and throat across the life span. – The student will be able to:
39.01	Review the anatomy and physiology of the eyes, ears, nose, and throat.

39.02	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various eye diseases/injuries, including but not limited to:</p> <ul style="list-style-type: none"> 39.02.01 burns of eye and adnexa 39.02.02 conjunctivitis 39.02.03 corneal abrasions 39.02.04 foreign body 39.02.05 inflammation of the eyelid 39.02.06 glaucoma 39.02.07 hyphemia 39.02.08 iritis 39.02.09 papilledema 39.02.10 retinal detachment and defect 39.02.11 cellulitis of orbit
39.03	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various ear diseases/injuries including:</p> <ul style="list-style-type: none"> 39.03.01 foreign body 39.03.02 impacted cerumen 39.03.03 labyrinthitis 39.03.04 Meniere's disease 39.03.05 otitis external and media 39.03.06 perforated tympanic membrane
39.04	<p>Discuss the pathophysiology, signs, and symptoms and demonstrate the assessment and management of patients with various nose diseases/injuries including:</p> <ul style="list-style-type: none"> 39.04.01 epistaxis 39.04.02 foreign body intrusion 39.04.03 rhinitis 39.04.04 sinusitis
39.05	<p>Discuss the pathophysiology, signs and symptoms and demonstrate the assessment and management of patients with oropharynx/throat diseases/injuries including:</p> <ul style="list-style-type: none"> 39.05.01 dentalgia and dental abscess 39.05.02 diseases of oral soft tissue/ Ludwig's angina 39.05.03 foreign body intrusion 39.05.04 epiglottitis 39.05.05 laryngitis 39.05.06 tracheitis 39.05.07 oral candidiasis 39.05.08 peritonsillar abscess 39.05.09 pharyngitis/tonsillitis 39.05.10 temporomandibular joint disorders
40.0	<p>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:</p>

40.01	Describe the epidemiology, including: premorbid and comorbid conditions and prevention strategies, for shock and hemorrhage.
40.02	Review the anatomy and physiology of the cardiovascular and respiratory systems.
40.03	Contrast the physiology of blood flow during normal states, peri-arrest, cardiac arrest and shock.
40.04	Discuss and demonstrate the assessment and management of shock.
40.05	Review the management of external hemorrhage.
40.06	Discuss appropriate fluid resuscitation.
40.07	Review the following for the cardiac arrest victim:
40.07.01	epidemiology
40.07.02	pathophysiology
40.07.03	physiology of blood flow during external chest compressions
40.07.04	resuscitation success/research
40.08	Review defibrillation and cardioversion to include manual techniques, automatic and semi-automated devices.
40.09	Discuss causes, pathophysiology, signs, and symptoms and management of special arrest and peri-arrest conditions, including but not limited to:
40.09.01	electrolyte disorders
40.09.02	toxic exposures
40.09.03	drowning
40.09.04	hypothermia
40.09.05	near-Fatal Asthma
40.09.06	anaphylaxis
40.09.07	trauma
40.09.08	pregnancy
40.09.09	electrical shock and lightning strikes
40.10	Review post resuscitative care include, temperature regulation, glucose/electrolyte management.
40.11	Discuss and demonstrate the assessment and management of internal hemorrhage.
40.12	Review the stages and classifications of hemorrhage.
40.13	Review the pathophysiology and demonstrate the assessment and management of the different types of shock.
40.14	Describe the effects of decreased perfusion at the capillary level.
40.15	Relate pulse pressure changes to perfusion status.
40.16	Relate orthostatic vital sign changes to perfusion status.

40.17	Define and differentiate between compensated and decompensated shock for all types of shock.
40.18	Discuss and differentiate the physiological manifestations of shock across the life span.
41.0	Trauma Overview: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of the trauma patient across the life span. – The student will be able to:
41.01	Review the pathophysiology of the trauma patient.
41.02	Review the components of comprehensive trauma systems and levels of trauma centers.
41.03	Review the considerations for different transportation modes to a trauma center.
41.04	Discuss the kinematics of blunt and penetrating trauma.
41.05	Discuss and describe significant and non-significant mechanism of injury (MOI) and provide examples of each.
41.06	Discuss and demonstrate the application of State of Florida's trauma scorecard methodologies as required in Florida Statute and Florida Administrative Code.
41.07	Review the National Trauma Triage Protocol of Injured Patients.
41.08	Review forming a field impression and utilizing available information to determine a differential diagnosis.
41.09	Review the need for rapid intervention transport of the trauma patient.
42.0	Bleeding: Demonstrate a complex depth, comprehension breadth of knowledge of pathophysiology, assessment and management of bleeding across the life span. – The student will be able to:
42.01	Review the compensatory mechanism in hemorrhagic shock.
42.02	Review the administration of medications to assist in the maintenance of homeostasis.
42.03	Review the maintenance of tissue oxygenation in a bleeding patient.
42.04	Discuss appropriate fluid resuscitation for the patient in hemorrhagic shock.
42.05	Review the different methods/modalities of controlling bleeding.
43.0	Chest Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of chest trauma across the life span. – The student will be able to:
43.01	Review the anatomy and physiology of the organs and structures related to thoracic injuries.

43.02	Review the pathophysiology, signs and symptoms and mechanism of injury (MOI) of the following injuries, including but not limited to:
43.02.01	myocardial injuries
43.02.01.1	pericardial tamponade
43.02.01.2	myocardial contusion
43.02.01.3	myocardial rupture
43.02.02	vascular injury
43.02.02.1.1	aortic dissection
43.02.02.1.2	pulmonary contusion
43.02.03	hemothorax
43.02.04	pneumothorax
43.02.05	hemopneumothorax
43.02.06	cardiac Tamponade
43.02.07	commotio cordis
43.02.08	tracheobronchial disruption
43.02.09	diaphragmatic rupture and injury
43.02.10	traumatic asphyxia
43.02.11	rib fracture
43.02.12	flail segment
43.02.13	sternal fracture
43.02.14	vascular injuries
43.02.15	impaled objects
43.02.16	evisceration/shock
43.03	Discuss monitoring of chest tubes.
43.04	Demonstrate the following techniques of management for thoracic injuries: needle decompression, elective intubation, ECG monitoring, oxygenation, and ventilation
44.0	Abdominal and Genitourinary Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of abdominal and genitourinary trauma across the life span. – The student will be able to:
44.01	Review the anatomy and physiology of organs and structures related to abdominal injuries.
44.02	Describe the mechanism of injury for and types of open and closed abdominal and retroperitoneal injuries involving seat belts, penetrating, blunt and evisceration.
44.03	Describe and demonstrate the pathophysiology, signs and symptoms and the assessment and management for, including but not limited to:
44.03.01	pelvic fractures.
44.03.02	solid organ injuries
44.03.03	hollow organ injuries
44.03.04	abdominal vascular injuries
44.03.05	retroperitoneal space (kidneys)
44.03.06	genitourinary system

44.04	Review the psychological considerations associated with genitourinary injuries.
45.0	Orthopedic Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of pathophysiology, assessment, and management of orthopedic trauma across the life span. – The student will be able to:
45.01	Review the anatomy and physiology of the musculoskeletal system, include the healing process.
45.02	Discuss pathophysiology, signs and symptoms, and MOI for orthopedic trauma.
45.03	Define the different types of orthopedic trauma including fracture classifications.
45.04	List the 6 “P” orthopedic injury assessment.
45.05	Discuss the following management techniques: 45.05.01 heat therapy 45.05.02 cold therapy 45.05.03 splinting
45.06	Describe and demonstrate the assessment and management of a patient with a suspected orthopedic trauma including medication administration (analgesics and anxiolytics).
45.07	Discuss the need for assessment of distal pulses, motor, and sensation before and after splinting.
45.08	Review age-associated changes in bones.
45.09	Define luxation and subluxation.
45.10	Explain the rationale for splinting at the scene versus load and go.
45.11	Demonstrate the proper use various splinting materials and devices to include improvised and traction splints.
45.12	Discuss and demonstrate the assessment and management of compartment and crush syndrome: 45.12.01 destination decision 45.12.02 rhabdomyolysis
45.13	Discuss the pathophysiology, and demonstrate the assessment and management of a tendon injury to the knee (patellar), shoulder, and Achilles.
45.14	Discuss the proper procedure to package an amputated body part for replantation.
46.0	Soft Tissue Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of pathophysiology, assessment, and management of soft tissue trauma across the life span. – The student will be able to:
46.01	Review anatomy and physiology and identify the major functions of the integumentary system.

46.02	Discuss the pathophysiology of soft tissue injuries and the healing process including:
46.02.01	inflammation
46.02.02	epithelialization
46.02.03	neovascularization
46.02.04	collagen Synthesis
46.02.05	alterations in wound healing
46.02.06	abnormal scar formation
46.03	Describe and demonstrate the assessment and management of various soft tissue injuries.
46.04	Identify types of burn injuries including:
46.04.01	thermal burn
46.04.02	chemical burn
46.04.03	electrical burn
46.04.04	radiation burn
46.05	Describe the depth classification of burn injuries including:
46.05.01	superficial burn
46.05.02	partial-thickness burn
46.05.03	full-thickness burn
46.05.04	other depth classification
46.06	Describe and demonstrate methods for determining body surface area percentage of a burn injury including the “rule of nines”, the “rule of palms”, and other methods.
46.07	Explain how the seriousness of a burn is related to its depth and percentage of body surface area (BSA) involved.
46.08	Review the various management techniques for hemorrhage control.
46.09	Differentiate among the types of injuries requiring the use of occlusive versus non-occlusive dressing.
46.10	Demonstrate the proper use of any Morgan□type lens for irrigation of the eye.
46.11	Demonstrate the assessment and management of specific burn injuries including:
46.11.01	thermal
46.11.02	inhalation
46.11.03	chemical
46.11.04	electrical
46.11.05	radiation
46.12	Describe the pathophysiologic complications and systemic complications of a burn injury.
46.13	Discuss comorbidities in burn patients.
46.14	Describe the management of a burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management.
46.15	Describe the types of chemicals and their burning processes and a chemical burn injury to the eye.

46.16	Discuss appropriate fluid resuscitation for burn patients.
47.0	Head, Face, Neck, and Spine: Demonstrate a fundamental depth, foundational breadth of knowledge of head, face, neck, and spine trauma across the life span. – The student will be able to:
47.01	Discuss types of and potential complications of facial injuries.
47.02	Discuss pathophysiology, signs and symptoms, assessment and management, and a field impression for injuries to the following areas:
47.02.01	eye(s)
47.02.02	nose
47.02.03	throat/neck
47.02.04	face
47.02.05	mouth
47.02.06	ear(s)
47.03	Distinguish between an open and closed head injury.
47.04	Define and explain the process involved with increasing ICP.
47.05	Describe and demonstrate the assessment and general management of the head/ brain injury patient, including pharmacological and non-pharmacological treatment.
47.06	Discuss the pathophysiology, signs and symptoms, and assessment and management for a patient for each of the following conditions:
47.06.01	skull fracture
47.06.02	cerebral contusion
47.06.03	intracranial hemorrhage
47.06.04	epidural, subdural, intracerebral, and subarachnoid
47.06.05	perforated tympanic membranes
47.06.06	orbital fracture
47.06.07	mandibular fracture
47.07	Review various methods for stabilization and removal of a helmet.
48.0	Nervous System Trauma: Demonstrate a fundamental depth, foundational breadth of knowledge of nervous system trauma across the life span. – The student will be able to:
48.01	Review the anatomy and physiology of the central nervous system, brain, spinal cord, skull and spinal column.

48.02	Discuss pathophysiology, signs and symptoms, assessment, and management of the following nervous system injury including:
48.02.01	Cauda Equine syndrome
48.02.02	peripheral nerve injuries
48.02.03	intracerebral hemorrhage
48.02.04	cranial fractures
48.02.05	brain tissue injuries
48.02.06	spinal cord injuries
48.02.07	Brown-Sequard Syndrome
48.02.08	anterior cord syndrome
48.02.09	central cord syndrome
48.02.10	spinal shock
48.03	Discuss the mechanism of injury which would result in a nervous system injury.
48.04	Review the rationale for and potential for motion restriction for the entire spine when a cervical spine injury is suspected
48.05	Discuss the research involving the management of nervous system injuries and patient management.
49.0	Special Considerations in Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of special considerations in trauma across the life span. – The student will be able to:
49.01	Integrate the assessment and management differences associated with the following special populations:
49.01.01	pregnancy
49.01.02	pediatric
49.01.03	geriatric
50.0	Environmental Emergencies: Demonstrate a complex depth, comprehensive breadth of knowledge of environmental emergencies across the life span. – The student will be able to:
50.01	Discuss the pathophysiology, signs and symptoms, assessment and management and MOI of the following:
50.01.01	drowning and water related incidents
50.01.02	temperature-related illness
50.01.03	bites and envenomation
50.01.04	diving injuries
50.01.05	lightning (electrical) injury
50.01.06	high altitude illness
50.02	Identify environmental factors that may cause illness, exacerbate preexisting illness and complicate treatment or transport decisions.
50.03	Review several methods of temperature monitoring.
50.04	Describe the general process of thermal regulation, including substances used and wastes generated.
50.05	Define fever and discuss its pathophysiologic mechanism.
50.06	Discuss the role of fluid therapy in the treatment of temperature related emergencies.

50.07	Review the gas laws related to the pathophysiology of injury in a submersion emergency.
50.08	Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
50.09	Differentiate among the various treatments and interventions for the management of diving accidents.
50.10	Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
51.0	Multi-Systems Trauma: Demonstrate a complex depth, comprehensive breadth of knowledge of multi-system trauma and blast injuries. – The student will be able to:
51.01	Review the priority of care in the multisystem trauma patient.
51.02	Explain which ALS interventions should occur prior to a transport decision and during transport.
52.0	Obstetrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the obstetric patient within the scope of practice of the paramedic. – The student will be able to:
52.01	Review the anatomy and physiology of the reproductive system.
52.02	Define the stages of labor and discuss how to assess them.
52.03	Differentiate between cephalic and abnormal delivery.
52.04	Describe the management of a patient with pre-delivery emergencies.
52.05	Discuss and demonstrate the patient care for all stages of labor in a cephalic delivery for the mother and the newborn.
52.06	Describe the procedures for handling complications of delivery.
52.07	Describe the management of the mother post-delivery.
52.08	Demonstrate the procedures for handling complications of pregnancy including per-eclampsia and high risk.
52.09	Describe the management of the mother post-delivery.
52.10	Discuss and demonstrate the patient care measures for all stages of labor in abnormal deliveries for the mother and the newborn.
52.11	Describe special considerations when meconium is present in amniotic fluid or during delivery.
53.0	Neonatal Care: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the neonatal patient within the scope of practice of the paramedic. – The student will be able to:
53.01	Review the term neonate.
53.02	Identify antepartum and intrapartum factors that can affect the neonate.
53.03	Discuss pulmonary perfusion and asphyxia.

53.04	Calculate the Apgar score given various neonate situations.
53.05	Review resuscitation equipment and procedures for the neonate
53.06	Determine when an orogastric tube should be inserted during positive-pressure ventilation.
53.07	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
53.07.01	apnea
53.07.02	bradycardia
53.07.03	acidosis
53.07.04	pneumothorax
53.07.05	meconium-stained
53.07.06	low blood volume
53.07.07	dysphemistic hernia
53.07.08	respiratory distress
53.07.09	respiratory depression secondary to narcotics
53.07.10	low birth weight
53.07.11	seizures
53.07.12	hypoglycemia
53.07.13	diarrhea
53.07.14	jaundice
53.07.15	fever
53.07.16	hypothermia
53.07.17	birth injuries
53.07.18	cardiac conditions
53.08	Discuss post arrest management of the neonate.
53.09	Discuss vascular access cannulation techniques for a newborn including umbilical vein/artery access.
54.0	Pediatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the pediatric patient within the scope of practice of the paramedic. – The student will be able to:
54.01	Discuss key anatomical, physiological, and developmental characteristics of infants and children and their implications.
54.02	Review and demonstrate techniques for successful assessment and treatment of infants and children.
54.03	Review airway and ventilatory considerations and procedures for pediatric patients.
54.04	Discuss the indications and methods for gastric decompression for infants and children.

54.05	Discuss the pathophysiology, signs and symptoms, assessment and management of the following, including but not limited to:
54.05.01	altered level of consciousness
54.05.02	trauma
54.05.03	hypo-perfusion
54.05.04	respiratory distress/failure
54.05.05	cardiac dysrhythmia
54.05.06	neurological emergency
54.05.07	abuse/neglect
54.05.08	SUIDS
54.05.09	FABO
54.05.10	respiratory emergencies
54.05.11	congenital heart disease
54.05.12	hydrocephalus/VP shunts
54.06	Discuss the appropriate procedure and equipment for vascular and intraosseous access.
54.07	Review basic cardiac life support (CPR) guidelines for infants and children.
54.08	Integrate advanced life support skills with basic cardiac life support for infants and children.
54.09	Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.
54.10	Describe Sudden Unexplained Infant Death Syndrome (SUIDS), current theories, assessment and management, and the immediate needs of the family.
54.11	Discuss the parent/caregiver responses to the death of an infant or child.
54.12	Discuss and demonstrate the use of a length-based resuscitation tape and other methods for determining equipment sizes, drug doses, and other pertinent information for a pediatric patient.
54.13	Discuss proper placement of a gastric tube in infants and children.
54.14	Review appropriate routes and techniques for medication administration.
54.15	Demonstrate appropriate parent/caregiver interviewing techniques for infant and child death situations.
55.0	Geriatrics: Demonstrate a complex depth, comprehensive breadth of knowledge of the management of the geriatric patient within the scope of practice of the paramedic. – The student will be able to:
55.01	Review and discuss the term geriatrics
55.02	Review the anatomy, physiology, and pathophysiology of the geriatric patient.
55.03	Discuss common emotional and psychological concerns and conditions of the geriatric patient.
55.04	Discuss the importance of fall prevention with the geriatric patient.

55.05	Describe principles that should be employed when assessing and communicating with the geriatric patient.
55.06	Describe the common causes, assessment and management of the geriatric patient with a medical, trauma, or psychosocial complaint.
55.07	Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management.
55.08	Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity and toxicology.
56.0	Patients with Special Challenges: Demonstrate a complex depth, comprehensive breadth of knowledge of management of the patient with special challenges within the scope of practice of the paramedic across the life span. – The student will be able to:
56.01	Discuss the special considerations required when providing emergency care to patients with:
56.01.01	abuse/neglect of vulnerable populations
56.01.02	homelessness
56.01.03	poverty
56.01.04	bariatrics
56.01.05	tech dependent
56.01.06	hospice/terminally ill
56.01.07	tracheostomy
56.01.08	home care
56.01.09	sensory deficit/loss
56.01.10	developmental disability
56.02	Discuss special considerations regarding common medical devices used in the home care of patients with special challenges including:
56.02.01	respiratory devices
56.02.02	cardiac devices
56.02.03	gastro-urinary devices
56.02.04	central & peripheral IV catheters
56.03	Describe home care and the types of patients it serves and the services it encompasses.
56.04	Describe the characteristics associated with the profile of the typical abuser of:
56.04.01	domestic abuser
56.04.02	elder abuser
56.04.03	child abuser
56.05	Discuss the role of the Paramedic as a patient advocate for vulnerable populations.
56.06	Differentiate between hospice/palliative care and curative care.
56.07	Describe paraplegia/quadriplegia.
56.08	Describe the various etiologies of mental illness.

56.09	Recognize the presenting signs of the following:
56.09.01	autism spectrum
56.09.02	developmental disability
56.09.03	down's syndrome
56.10	Describe the following diseases/illnesses and identify each of their possible presenting signs, including but not limited to:
56.10.01	arthritis
56.10.02	cancer
56.10.03	cerebral palsy
56.10.04	cystic fibrosis
56.10.05	multiple sclerosis
56.10.06	muscular dystrophy
56.10.07	myasthenia gravis
56.10.08	poliomyelitis
56.10.09	spina bifida,
56.10.10	patients with a previous head injury
56.10.11	mental illness
56.11	Review hospice care, comfort care and DNR/DNAR as they relate to local practice, law and policy.
56.12	Describe the access and discuss indwelling catheters, implanted central IV ports and central line monitoring.
56.13	Describe complications of assessing each of the airway, vascular access, and GI/GU devices.
56.14	Identify and describe the failure of wound drains.
56.15	Review the rights of the terminally ill.
56.16	Demonstrate proper tracheotomy care.
56.17	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.
57.0	Principles of Safely Operating a Ground Ambulance: Demonstrate a simple depth, foundational breadth of knowledge of risks and responsibilities of transport. – The student will be able to:
57.01	Review the EMT standards and benchmarks for the Principles of Safely Operating a Ground Ambulance.
58.0	Incident Management: Demonstrate a complex depth, comprehensive breadth of knowledge of establishing and working within the incident management system. – The student will be able to:
58.01	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.
59.0	Multiple Casualty Incidents: Demonstrate a simple depth, foundational breadth of knowledge of responding to an emergency during a multiple casualty incident. – The student will be able to:
59.01	Review the EMT standards and benchmarks for Multiple Casualty Incidents.

60.0	Air Medical: Demonstrate a complex depth, comprehensive breadth of knowledge of air medical transport risks, needs and advantages. – The student will be able to:
60.01	Describe the advantages and disadvantages of air medical transport.
60.02	Identify appropriate reasons for the use of air medical for emergency patient transport.
60.03	Describe the risks involved with the use of air medical transport.
60.04	Demonstrate the actions needed to ensure effective and safe ground operations involving air medical response.
60.05	Demonstrate appropriate communication of information needed for safe and effective interaction between the air medical crew and ground personnel.
61.0	Vehicle Extrication: Demonstrate a simple depth, simple breadth of knowledge for safe vehicle extrication and use of simple hand tools. – The student will be able to:
61.01	Review the EMT standards and benchmarks for Vehicle Extrication.
62.0	Hazardous Materials Awareness: Demonstrate a simple depth, simple breadth of knowledge 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	Review the EMT standards and benchmarks for Hazardous Materials Awareness.
63.0	Mass Casualty Incidents due to Terrorism and Disasters: Demonstrate a simple depth, simple breadth of knowledge of risks and responsibilities of operating on the scene of a natural or man-made disaster. – The student will be able to:
63.01	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.

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.

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 Professional 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.

Basic Skills

In a Career Certificate Program 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.

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 42 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: 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 is regulated by the Department of Health, Bureau of Radiation Control.

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" non-imaging 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 Maintain 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 Dispose of radioactive wastes appropriately and in accordance with local, state and federal regulations.
 - 12.06 Apply and interpret proper personnel monitoring of radiation exposure.
 - 12.07 Perform decontamination procedures.
 - 12.08 Implement appropriate 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	Perform generator eluate.
13.03	Prepare radiopharmaceuticals including quality control tests.
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	Calculate, prepare, and administer radiopharmaceuticals and 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	Recognize and follow precautions and contraindications of medications including radiopharmaceuticals.
14.10	Evaluate patient history.
14.11	Evaluate patient status/needs and care for them accordingly, including treatment for adverse effects.
14.12	Document and maintain records according to facility protocol.
15.0	Perform "in vitro"/"in vivo" non-imaging procedures. – The student will be able to:
15.01	Operate laboratory equipment.
15.02	Accurately and efficiently collect specimens in accordance with facility protocol.
15.03	Operate radiation detection equipment.
15.04	Perform radioassays and calculations.
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 in accordance with facility protocol.
16.03	Explain procedure and prepare patient 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 detectors.
17.03	Operate and perform daily quality control on gas-filled detectors.
17.04	Maintain a quality assurance program according to accrediting and regulatory 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.

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 (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 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)

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 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 is regulated by the Florida Department of Health; Bureau of Radiation Control.

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 by demonstrating knowledge of didactic concepts.
01.10	Demonstrate the principles of radiation protection.
01.11	Monitor tumor lethal dose and normal tissue tolerance dose.
01.12	Evaluate the patient's clinical response to treatment parameters as prescribed to determine if medical intervention by the doctor is necessary.
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 significance of the patient's unique diagnosed cancerous pathology to formulate appropriate simulations and treatment 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 departmental resources that are designed to meet the health and wellness of 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	Demonstrate knowledge of situations where life support procedures would be 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 planning prior to and during a course of 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 on the simulator and linear accelerator.
03.05	Describe the evaluative criteria for imaging detectors on the simulator and linear accelerator.
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 on the simulator and linear accelerator.
03.08	Discuss the response of digital imaging systems to background and scatter radiation on the simulator and linear accelerator.
03.09	Identify appropriate measures to control scatter in the simulation and linear accelerator rooms.
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 in simulation and treatment planning.
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	Analyze relationships of factors affecting image contrast, density and resolution to determine optimal image quality.
03.28	Apply techniques to enhance image details and reduce image distortion.
03.29	Determine artifact types, cause and preventive measures.
03.30	Explain the basic principles of image formation for each of the following modalities: magnetic resonance (MR), ultrasound imaging, and nuclear medicine.
03.31	Describe and explain functions of the components of the computed tomography (CT) imaging system.
03.32	Differentiate between conventional and spiral/helical CT scanning.
03.33	List the CT computer data processing steps.
03.34	Name the functions of the array processor used for image reconstruction.
03.35	Explain the difference between reconstructing and reformatting an image.
03.36	Describe the application of the following terms to CT:
03.36.01	Pixel.
03.36.02	Matrix.
03.36.03	Voxel.
03.36.04	Linear attenuation coefficient.
03.36.05	CT/Hounsfield number.
03.36.06	Partial volume averaging.
03.36.07	Window width (ww) and window level (wl).
03.36.08	Spatial resolution.
03.36.09	Contrast resolution.
03.36.10	Noise.
03.36.11	Annotation.
03.36.12	Region of interest (ROI).
03.36.13	Standard vs. volumetric data acquisition.
03.37	Identify the types and appearance of artifacts most commonly affecting CT images.
03.38	Explain how artifacts can be reduced or eliminated.
03.39	Describe current data storage techniques used in CT.
03.40	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 CT simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
09.08	Critique treatment images in relation to simulation images.
09.09	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 rationale 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 using SI units.
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 non-threshold dose response curves.
12.17	Describe the 4 Rs of radiobiology.
12.18	Compare the relationship of time, dose, fractionation, volume, distance, and site to radiation effects.
12.19	Discuss the use of radiation response modifiers.
12.20	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 non-stochastic 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 SI terminology and units when discussing radiation protection issues.
14.07	Select the correct SI 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 non-occupational 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 the wipe test.
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 (^{60}Co).
16.22	Compare the characteristics of an isotope beam and an x-ray beam.
16.23	Explain linear energy transfer (LET).
16.24	Compare photon interactions with matter and classify radiations produced by direct and indirect ionization.
16.25	Explain major influencing factors of photon beam attenuation.
16.26	Describe the parameters of narrow beam geometry used in the measurement of attenuation.
16.27	Plot heteroenergetic and monoenergetic beam attenuation data.
16.28	Calculate half-value layer (HVL).
16.29	. Calculate the homogeneity coefficient.
16.30	Calculate attenuation requirements for beam modification devices.
16.31	Discuss activation of clinical accessories and alternate shielding materials due to photodisintegration.
16.32	Explain charged particle interactions with matter, describing dose deposition, energy loss and shielding requirements.
16.33	Define mass stopping power.
16.34	Describe a Bragg curve.
16.35	Discuss the purpose and importance of the National Institute of Standards and Technology (NIST).
16.36	Discuss the purpose and importance of the Accredited Dosimetry Calibration Labs (ADCL).
16.37	Demonstrate use of the appropriate type of radiation detector for given clinical applications.
16.38	Calculate correction factors for chamber calibration, temperature, pressure and other factors used to correct a chamber reading.
16.39	Discuss protocols used for external beam calibration.
16.40	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.
16.41	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.

16.42	Calculate the approximate mean energy of a megavoltage beam.
16.43	Compare absorbed dose vs. exposure.
16.44	Discuss the relationship between kinetic energy released in the medium (KERMA), exposure and absorbed dose.
16.45	Calculate air dose to absorbed dose conversions in tissue, including but not limited to, energy considerations, applicable conversion factors, necessary instrumentation and methods.
16.46	Discuss the clinical importance of phantom material and size when applying the Bragg-Gray Cavity Theory.
16.47	Critique how dose distribution measured in a phantom is used to predict dose distribution in a patient.
16.48	Compare the characteristics and composition of various phantoms.
16.49	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 the supply chain.
- 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 surgical 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 (135100002). At the completion of this program, the student will be able to:

Students completing intended outcomes (12-26), in addition to the health science 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	Describe the processes for loaner instrumentation and equipment.
12.07	Describe the process of product evaluation.
12.08	Describe the procedures for tracking the usage of medical/surgical supplies, patient care equipment and specialty carts.
12.09	Describe the procedures for documenting supply and equipment charges.

12.10	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 the supply chain. -- The student will be able to:
14.01	Describe the process of supply chain management.
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 healthcare 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 healthcare 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 for the central supply worker to include appropriate PPE.
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 hospital acquired 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, and 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 procedure 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 surgical 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 surgical 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, Heart saver, 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 (right patient, right medication, right dosage, right route, right time/frequency, and right documentation).
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 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.
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	Demonstrate patient transfer/transportation techniques used in the operating room (OR).
17.02	Describe appropriate review of the chart including preoperative identification, preoperative checklists, diagnostic tests, lab values and surgical consent.
17.03	Monitor OR traffic, placement of sterile tables and ensure steps are taken to reduce microbial fallout.
17.04	Assist with positioning and apply safety devices correctly to the patient for surgery.
17.05	Describe the function, assembly, application and care of critical specialty equipment utilized. .
17.06	Correlate anesthesia monitoring devices, patient complications and interventions with maintaining patient homeostasis.
17.07	Demonstrate correctly the connection and operation of essential equipment for the surgical procedure.
17.08	Perform steps for Foley catheter insertion and connecting to drainage correctly.

17.09	Demonstrate applicable wound management principles including the placement and security of catheters, wound drainage systems, sterile dressings and splint applications.
17.10	Discuss relevant and unique factors regarding postoperative care specific to the procedure.
18.0	Demonstrate knowledge of the skills necessary to function safely and effectively. – The student will be able to:
18.01	Demonstrate the use of various forms of communication in the role of surgical technologist.
18.02	Maintain current documentation in the clinical setting relative to the surgical technologist role.
18.03	Demonstrate proper use of the communication systems.
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 the surgical scrub and donning of sterile gown and gloves.
18.06	Demonstrate application of sterile technique principles including the appropriate corrective action for common breaks in sterile technique.
18.07	Demonstrate proper draping of tables, solution stands, mayo stand, patient and equipment.
18.08	Demonstrate the set up and management of the sterile mayo stand and/or instrument table(s).
18.09	Select suture and needle appropriately for each scenario given based on function and type.
18.10	Prepare, pass and monitor sharps, sutures, ligatures, ties and staples.
18.11	Demonstrate assisting gowning/gloving of other sterile team members.
18.12	Participate in the surgical time out to prevent wrong site surgery and delays in the surgical procedure.
18.13	Prepare and pass instruments, equipment, tissue replacement materials, implants and supplies efficiently.
18.14	Monitor the surgical site regarding counted items, stage of surgery, tissue appearance and patient's body fluids.
18.15	Demonstrate correctly the initiation and completion of counts regarding sponges, sharps, instruments and miscellaneous items used within the patients wound to prevent foreign body retention.
18.16	Demonstrate ability to maintain retraction, cut suture, provide retraction and hold instruments in the second assistant role as directed by the surgeon.
18.17	Demonstrate ability to prepare, validate, handle and preserve specimen on and off the sterile field accurately for laboratory analysis.
19.0	Demonstrate knowledge of and assist with surgical procedures. – The student will be able to:
19.01	Correlate the preoperative diagnosis, diagnostic interventions, common complications, and operative pathophysiology relative to specific surgical procedures.

19.02	Describe the types of incisions, methods of wound closure, and mechanisms of wound management.
19.03	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.)
19.04	Select the appropriate instrument, equipment, or supply for each step of the procedure.
19.05	Demonstrate effective perioperative case management ensuring cost control and time/motion economy methods are utilized to maximize the efficiency of the OR team.
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	Provide health care within the ethical/legal framework of the surgical technologist's role.
20.03	Describe the principles of problem solving and confidentiality in ethical decision making and risk management.
20.04	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 1:6.

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 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 demonstrate 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 and describe 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.
12.14	Demonstrate proper universal precautions and sterile techniques when preparing for a sonographic procedure.
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, translabial, 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 and perform 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.
21.19	Describe and perform Doppler applications for evaluation of a pregnancy (i.e. umbilical artery, etc.).
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 gynecology.
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.
22.08	Demonstrate knowledge and understanding of the role of the sonographer in performing interventional/invasive procedures.
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, Heart saver, 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 healthcare 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 healthcare 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 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 surgical team 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 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 the surgical 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 surgical team 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
Program Type: ATD (Applied Technology Diploma)
Career Cluster: Health Science

	College Credit	Career Certificate Program
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	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-2012 Medical and Clinical Laboratory Technicians 31-9099 Healthcare Support Workers, All Other 31-9097 Phlebotomists	29-2012 Medical and Clinical Laboratory Technicians 31-9099 Healthcare Support Workers, All Other 31-9097 Phlebotomists
Basic Skills Level:	N/A	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 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 clock hour credit, with college credit awarded to a student upon articulation to a state college.

Regulated Programs

This program is regulated by the Florida Board of Clinical Laboratory Personnel.

Career Certificate 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	Immunochemistry	255 hours	
	MLT0450	Microbiology and Parasitology	275 hours	

College Credit

When offered at the college credit 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
Career Certificate Program Number: H170600**

When this program is offered at the Career Certificate Program 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 Career Certificate Program 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.

**Career Certificate Program 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.

**Career Certificate Program 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 for phlebotomy programs and provide certifications for phlebotomists.
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.
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	Know how to perform venipuncture by evacuated tube, butterfly and syringe systems.
16.07	Describe the correct order of draw according to CLSI guidelines.
16.08	Describe the use of barcoding systems used for positive patient identification and specimen identification.
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 "hospital acquired infection".
17.02	Demonstrate proper hand hygiene.
17.03	Comply with universal/standard 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	Understand Joint Commission patient safety goals and other accrediting/regulatory agency guidelines.

Career Certificate Program 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	Understand the principles of quality assurance to correct problems encountered in monitoring daily quality control.
20.06	Evaluate laboratory findings to confirm results according to standard operating procedure.
20.07	Demonstrate knowledge of principles and operation 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:
21.01.1	Test principle
21.01.2	Storage & Stability
21.01.3	Internal vs. External Quality Control
21.01.4	Specimen collection & preparation
21.01.5	Directions for use
21.01.6	Interpretation of results
21.01.7	Interfering substances
21.02	Explain the purpose of lot to lot correlations.

21.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.
21.04	Understand 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	Perform 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	Communicate laboratory results to healthcare professionals.
23.03	Demonstrate ability to evaluate laboratory results.
23.04	Demonstrate ability to report laboratory results 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	Assess specimen acceptability using standard operating procedure including rejection/recollection criteria.
24.02	Describe 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	Understand the need for calibration of laboratory equipment.
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.
Career Certificate Program 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 specific gravity techniques; calibration and use of the refractometer.
27.05	Perform dipstick or tablet (non-automated) urinalysis techniques for chemical exam of the urine and interpret results.
27.06	Demonstrate the proper use of automated urinalysis analyzers.
27.07	Describe renal function tests.

27.08	Describe principles of and perform routine physical and chemical analyses on urine.
27.09	Prepare urine sediments and perform identification and quantitation of microscopic formed elements.
27.10	Correlate abnormal physical, chemical and microscopic urine results with associated pathological conditions.
27.11	Differentiate between transudates and exudates.
27.12	Discuss miscellaneous body fluids to include cerebral spinal, serous, seminal and joint fluids.
27.13	Perform physical, chemical and microscopic evaluations of common body fluids.
Career Certificate Program 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 hematopoiesis.
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	Calculate red blood cell indices.
28.09	Discuss selected cytochemical staining and flowcytometry procedures.
28.10	Evaluate red blood cell morphology.
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 complete blood cell results with peripheral exam of blood smear.
28.14	List the white blood cell maturation sequence and identify distinguishing morphology for stages of developing white blood cells.

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 characteristic findings of 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 mechanisms of hemostasis including bleeding and clotting.
29.02	Discuss common coagulopathies and associated treatments.
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 primary and secondary hemostasis.
29.05	Discuss additional hemostasis tests performed to differentiate the cause of abnormal routine tests.
Career Certificate Program 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	Compare and contrast the principles of basic agglutination, flocculation and precipitation procedures in immunology/serology.
30.04	Perform basic procedures in immunology/serology.
30.05	Discuss principles of serum protein electrophoresis and immunofixation.
30.06	Discuss the clinical significance of the commonly performed immunological tests.
30.07	Discuss selected serological tests such as immunoassays.

Career Certificate Program 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 organ function.

31.02 Discuss the renal system and related analytes.

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 and related analytes.

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 clinical 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 and controls.

31.19 Discuss other techniques of clinical chemistry.

31.20 Discuss basic techniques of clinical chemistry related to normal and abnormal physiology.

Career Certificate Program Course Number: MLT0520
Occupational Completion Point: C

Immunoematology – 255 Hours – SOC Code 29-2012

32.0 Demonstrate knowledge of immunoematology 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 blood group systems testing procedures and recognize ABO discrepancies.

32.07 Describe required tests on recipient blood samples.

32.08 Discuss and differentiate other blood group systems such as Duffy, Kell, Kidd, S,s, Lu and the common cold-reacting antibodies such as Le, P, I, M and N.

32.09 Perform Rh testing to determine Rh phenotypes.

32.10 Perform and interpret antibody screening.

32.11 Perform antibody 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 phenotyping on recipient and donor specimens.

32.15 Identify symptoms of the suspected transfusion reaction and the required laboratory work-up.

32.16 Discuss immune hemolytic disorders and perform the direct antiglobulin test.

32.17 Discuss specialized techniques.

32.18 Perform quality control (QC) on reagents.

32.19 Describe the pathophysiology of hemolytic disease of the fetus and newborn.

Career Certificate Program Course Number: MLT0450

Occupational Completion Point: C

Microbiology and Parasitology – 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 sterilization techniques.
33.06	Perform culturing techniques for urine, stool, wound, respiratory, body fluids, and blood specimens.
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 antimicrobial 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 for phlebotomy programs and provide certification for phlebotomists.
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.
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	Know how to perform venipuncture by evacuated tube, butterfly and syringe systems.
16.07	Describe the correct order of draw according to CLSI guidelines.

16.08	Describe the use of barcoding systems used for positive patient identification and specimen identification.
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 "hospital acquired infection".
17.02	Demonstrate proper hand hygiene.
17.03	Comply with universal/standard 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	Understand 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	Understand the principles of quality assurance to correct problems encountered in monitoring daily quality control.
20.06	Evaluate laboratory findings to confirm results according to standard operating procedure.
20.07	Demonstrate knowledge of principles and operation 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:
21.01.1	Test principle
21.04.2	Storage & Stability
21.04.3	Internal vs. External Quality Control
21.04.4	Specimen collection & preparation
21.04.5	Directions for use
21.04.6	Interpretation of results
21.01.7	Interfering substances
21.02	Explain the purpose of performing lot to lot correlations.
21.03	Demonstrate knowledge of the frequency in which quality control procedures should be performed.
21.04	Understand 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	Perform 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	Communicate laboratory results to healthcare professionals.
23.03	Demonstrate ability to evaluate laboratory results.
23.04	Demonstrate ability to report laboratory results 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	Assess specimen acceptability using standard operating procedure including rejection/recollection criteria.
24.02	Describe 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	Understand the need for calibration of laboratory equipment.
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.
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 specific gravity techniques; calibration and use of the refractometer.
27.05	Perform dipstick or tablet (non-automated) urinalysis techniques for chemical exam of the urine and interpret results.
27.06	Demonstrate the proper use of automated urinalysis analyzers.
27.07	Describe renal function tests.

27.08	Describe principles of and perform routine physical and chemical analyses on urine.
27.09	Prepare urine sediments and perform identification and quantitation of microscopic formed elements.
27.10	Correlate abnormal physical, chemical and microscopic urine results with associated pathological conditions.
27.11	Differentiate between transudates and exudates.
27.12	Discuss miscellaneous body fluids to include cerebral spinal, serous, seminal and joint fluids.
27.13	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 hematopoiesis.
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	Calculate red blood cell indices.
28.09	Discuss selected cytochemical staining and flowcytometry procedures.
28.10	Evaluate red blood cell morphology.
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 complete blood cell results with peripheral exam of blood smear.
28.14	List the white blood cell maturation sequence and identify distinguishing morphology for stages of developing white blood cells.
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 characteristics findings of 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 mechanisms of hemostasis including bleeding and clotting.
29.02	Discuss common coagulopathies and associated treatments.
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 primary and secondary hemostasis.
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	Compare and contrast the principles of basic agglutination, flocculation and precipitation procedures in immunology/serology.
30.04	Perform basic procedures in immunology/serology.
30.05	Discuss principles of serum protein electrophoresis and immunofixation.
30.06	Discuss the clinical significance of the commonly performed immunological tests.
30.07	Discuss selected serological tests such as immunoassays.
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 organ function.
31.02	Discuss the renal system and related analytes.

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 and related analytes.
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 clinical 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 other 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 blood group system testing procedures and recognize ABO discrepancies.
32.07	Describe required tests on recipient blood samples.
32.08	Discuss and differentiate other blood group systems such as Duffy, Kell, Kidd, S,s, Lu and the common cold-reacting antibodies such as Le, P, I, M, and N.
32.09	Perform Rh testing to determine Rh phenotypes.
32.10	Perform and interpret antibody screening.
32.11	Perform antibody 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 phenotyping on recipient and donor specimens.
32.15	Identify symptoms of the suspected transfusion reaction and the required laboratory work-up.
32.16	Discuss immune hemolytic disorders and perform the direct antiglobulin test.
32.17	Discuss specialized techniques.
32.18	Perform quality control (QC) on reagents.
32.19	Describe pathophysiology of 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 sterilization techniques.
33.06	Perform culturing techniques for urine, stool, wound, respiratory, body fluids, and blood specimens.
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 antimicrobial 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 a Career Certificate Program 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 Code 51-9083 (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 spherocylinder 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 21 st 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 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 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.).

02.05 Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.

02.06 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	Perform 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	Perform microbiology skills, which may include but are not limited to, plating techniques, isolating and characterizing cell lines, propagating cell lines, and cryogenic techniques.
06.02	Perform various genetic engineering techniques including but not limited to, transformation, transfection of mammalian, insect, and/or bacterial cells.
06.03	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.
06.04	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
06.05	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.
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

This program is regulated by the Florida Board of Funeral, Cemetery, and Consumer Services.

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

Refer to Rule 6A-14.030 (4) F.A.C., for the minimum amount of general education coursework required in the Associate of Science (AS) degree. 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 basis of a funeral director's liability for the negligence of a volunteer driver in a funeral procession.
13.01.05	The legal duty of a funeral director regarding permits required by law.
13.01.06	The reasons for legal limitation on a funeral bill charged against an estate where creditor's claims exceed the assets of the estate.
13.01.07	How a testator may provide in their will for the payment of funeral expenses.
13.01.08	The duty of the funeral director for compliance with the Federal Trade Commission Funeral Rules.
13.01.09	The duty of the funeral director for compliance with the Magnuson-Moss Warranty Act (1975).
13.01.10	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.
13.03.09	The liability of the funeral director for the custody of the remains.

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		The conditions under which a funeral home or cemetery may be considered a nuisance per se.
13.04.09		Why the power of eminent domain may be invoked to acquire land for a public cemetery.
13.04.10		The power under which cemeteries may be regulated by the state, and what specific action must be taken to convert land to cemetery use.
13.04.11		The authority under which a private cemetery may enforce rules which control burial in it.
13.04.12		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.
13.04.13		Under what authority cemeteries are required to provide admittance to graves.
13.04.14		What kind of offense is desecration of a grave?
13.04.15		The proper position the funeral director should take when survivors of a decedent disputes the exercises of the right of disposition.

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.
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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 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

Refer to Rule 6A-14.030 (4) F.A.C., for the minimum amount of general education coursework required in the Associate of Science (AS) degree. 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	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	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.).

02.05	Follow standard precautions for biological pathogen, both proper handling and disposal, and define principles of contamination control including standard and transmission based precautions.
02.06	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	Perform 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	Make decisions based on accurate facts, data, and agreed-upon goals.
05.03	Evaluate the decision made.
05.04	Demonstrate ability to evaluate data and draw conclusions.
05.05	Diagnose problem, its urgency and causes, and documenting as appropriate.
05.06	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	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 bioassays.
06.05	Perform immunological techniques, including but not limited to, enzyme-linked immunosorbent assays, use of monoclonal and polyclonal antibodies, and Western blot techniques.
06.06	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.
06.07	Demonstrate an understanding of translation assays, DNA libraries and isotopic and non-isotopic labeling techniques.
06.08	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.
06.09	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.
06.10	Demonstrate knowledge of instrument-based separation, including but not limited to various chromatography techniques and other separation methodologies (e.g. FACS).
06.11	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	Explain 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 assays of various nature not limited to polymerase chain reaction primer design, gene assembly reactions or synthetic biology techniques.
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/Heart saver, 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 the supply chain.
- 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 surgical 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: 135100002
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.

Refer to Rule 6A-14.030 (4) F.A.C., for the minimum amount of general education coursework required in the Associate of Science (AS) degree. 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 healthcare 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 healthcare 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	Describe the processes for loaner instrumentation and equipment.
16.07	Describe the process of product evaluation.
16.08	Describe the procedures for tracking the usage of medical/surgical supplies, patient care equipment and specialty carts.
16.09	Describe the procedures for documenting supply and equipment charges.
16.10	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 the supply chain. -- The student will be able to:
18.01	Describe the process of supply chain management.
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 for the central supply worker to include appropriate PPE.
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 hospital acquired 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 procedure 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 surgical 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 surgical 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 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 surgical team 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 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 the surgical 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 surgical team 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 (right patient, right medication, right dosage, right route, right time/frequency, and right documentation).
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 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.
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	Perform steps for Foley catheter insertion and connecting to drainage correctly.
40.09	Demonstrate applicable wound management principles including the placement and security of catheters, wound drainage systems, sterile dressings and splint applications.
40.10	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 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 assisting gowning/gloving of 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.