

Florida Department of Education
Curriculum Framework

The standards and benchmarks for this program were updated for the 2026-27 academic year.

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
Program Length	3 credits
Teacher Certification	Refer to the Program Structure section.
CTSO	HOSA
SOC Codes (all applicable)	31-9099 -- Healthcare Support Workers, All Other 39-9031 -- Fitness Trainers and Aerobics Instructors
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml

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 instructions 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 OR 2000350 OR 2000360	Health Science Anatomy & Physiology OR <i>Anatomy and Physiology</i> OR <i>Anatomy and Physiology Honors</i>	ANY HEALTH OCCUP G (See DOE approved list)	1 credit	31-9099	3	EQ
8417110	Health Science Foundations		1 credit	31-9099	3	CT
8417120	Exercise Science	PH THER TEC @7 G HEALTH FIT SPEC 7G MED PROF 7 G	1 credit	39-9031	3	CT

(Graduation Requirement Codes: CT= Career & Technical Education, EQ= Equally Rigorous Science, EC= Economics, MA= Mathematics, PL= Personal Financial Literacy)

Florida's Career Readiness Skills for CTE Programs

Employability Skills	
01.0	Apply academic skills to workplace scenarios.
01.01	Use reading skills.
01.02	Use writing skills.
01.03	Use mathematical strategies and procedures.
01.04	Use scientific principles and procedures.
02.0	Design a solution to an industry problem.
02.01	Use critical thinking.
02.02	Use creativity.
02.03	Make sound decisions.
02.04	Solve problems.
02.05	Reason.
02.06	Plan and organize.
03.0	Manage resources within an industry project
03.01	Manage time.
03.02	Manage money or resources.
03.03	Manage materials.
03.04	Manage personnel.
04.0	Oversee the subcomponents, operations and output of a technical or organizational system.
04.01	Manage systems.
04.02	Monitor systems.
04.03	Improve systems.
05.0	Use information for decision making.
05.01	Locate information.
05.02	Organize information.
05.03	Use information.

05.04	Analyze information.
05.05	Communicate information.
06.0	Apply relevant technology to workplace scenarios to aid productivity.
06.01	Use technology.
07.0	Interpret and express interpersonal communication.
07.01	Communicate verbally.
07.02	Listen actively.
07.03	Comprehend written material.
07.04	Convey information in writing.
07.05	Communicate nonverbally.
07.06	Interpret nonverbal communication.
08.0	Interact with others to accomplish workplace goals.
08.01	Collaborate with others in a team.
08.02	Respond to customer needs.
08.03	Exercise leadership.
08.04	Negotiate to resolve conflict.
08.05	Respect others.
09.0	Manage personal behavior to maximize productivity and professional growth.
09.01	Demonstrate responsibility and self-discipline.
09.02	Adapt and show flexibility.
09.03	Work independently.
09.04	Demonstrate a willingness to learn.
09.05	Demonstrate integrity.
09.06	Demonstrate professionalism.
09.07	Take initiative.
09.08	Display positive attitude.
09.09	Take responsibility for professional growth.

Career Exploration & Planning	
10.0	Explain career opportunities aligned with the regional economy and personal aspirations.
10.01	Describe regional occupations that are high-demand, high-growth, high-wage and/or high-skill.
10.02	Describe careers aligned with his or her interests, skills and values based on career assessment, experiential learning, career informational interviews, research and/or reflection.
11.0	Explain postsecondary pathways aligned with his or her career aspirations.
11.01	Compare and contrast postsecondary pathways, including education, employment, entrepreneurship and enlistment (the “Four Es”).
11.02	Compare and contrast regional postsecondary training provider options, including apprenticeships, technical colleges, state colleges, universities and industry-recognized certification providers.
11.03	Define postsecondary credentialing and stacking options, including industry-recognized certifications, apprenticeship certificates of completion, career certificates, licenses and associate or baccalaureate degrees.
11.04	Compare postsecondary training data for training programs of interest, such as total costs, average student loan debt, and median earnings and job placement rates after program completion.
12.0	Develop a personalized career and academic plan.
12.01	Prioritize an occupation, credential and postsecondary training provider for plan formation.
12.02	Self-assess progress toward meeting graduation requirements and skill-development goals.
12.03	Develop and complete a chronological checklist of steps and deadlines prior to postsecondary training or national service application that includes any required documentation to gather, writing prompts and examinations.
12.04	Identify a variety of financial aid opportunities, including scholarships, grants, savings, work, work-study programs, private loans and federal loans.
12.05	Develop a postsecondary training budget that is inclusive of living and school expenses.
Job Attainment	
13.0	Find, assess and apply to job opportunities.
13.01	Identify online job posts relevant to his or her career aspirations.
13.02	Compare and contrast the job posts’ required qualifications, job duties, compensation, benefits and employers.
13.03	Define what information, documentation and writing prompts are required for the positions.
14.0	Communicate personal competence, character and fit for a job opportunity.
14.01	Develop a resume.
14.02	Write a cover letter.
14.03	Curate a professional portfolio that includes work products.
14.04	Prepare for and experience a mock job interview.

15.0	Cultivate and leverage relationships to professionally advance.
15.01	Request a signed reference letter, letter of recommendation and/or an online skill/professionalism endorsement.
15.02	Develop a plan to cultivate a professional digital footprint.
15.03	Develop a networking plan for a specific industry of interest.

Standards

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

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.

Exercise Science

- 28.0 Demonstrate a working knowledge of legal and ethical issues in the fitness and wellness industry as it relates to professional development, continuing education, and the code of professional conduct of a Certified Personal Trainer.
- 29.0 Outline the process of developing a successful personal training business.
- 30.0 Identify and describe basic human anatomy and physiology.
- 31.0 Understand the theories and practices of human movement science and exercise metabolism.
- 32.0 Classify risk factors for fitness and exercise activities and identify proper medical referrals needed to modify a fitness plan.

- 33.0 Apply basic principles of nutrition and wellness in assessing health and wellness.
- 34.0 Understand and define the psychosocial aspects of health and fitness.

**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. To access this document, visit this link:**
<https://www.fldoe.org/file/20894/health-sci-core-secondary-2627.rtf>

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 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:

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.

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, developing 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 musculoskeletal system of the body.

CTE Standards and Benchmarks	
28.0	Demonstrate a working knowledge of legal and ethical issues in the fitness and wellness industry as it relates to professional development, continuing education, and the code of professional conduct of a Certified Personal Trainer. The students will be able to:
28.01	Distinguish a fitness professional's role within the allied health industry.
28.02	Identify requirements and opportunities for continuing education in the fitness industry.
28.03	Identify and define the Certified Personal Trainers' responsibilities and duties within their legal scope of practice.
28.04	Demonstrate the professional code of conduct of a Certified Personal Trainer.
28.05	Discuss the legal and ethical benefits and the consequences of performance-enhancing drugs and supplements.
28.06	Outline and present a current legal and/or ethical issue related to fitness and wellness.
28.07	Demonstrate knowledge of the Health Insurance Portability and Accountability Act (HIPAA) when working with a healthcare provider.
29.0	Outline the process of developing a successful personal training business. The students will be able to:
29.01	Describe the qualities and characteristics of uncompromising customer service.
29.02	Discover employment opportunities for Certified Personal Trainers in the fitness industry.
29.03	Craft a professional resume, conduct a job search, and prepare for an interview.
29.04	Apply working knowledge of interviewing skills both as an employee and employer.
29.05	Develop basic membership sales and marketing strategies to drive clientele growth.

CTE Standards and Benchmarks	
29.06	Research the basic components of starting a new business, such as budgetary guidelines, SWOT analysis, liability insurance, and LLCs.
30.0	Identify and describe basic human anatomy and physiology. The students will be able to:
30.01	Evaluate the structure of the human skeleton, including the structure and function of the different types of joints and muscle movements.
30.02	Evaluate the anatomy and physiology of each of the following systems and how they interact with each other, including: • nervous system • musculoskeletal (muscular and skeletal) • cardiorespiratory/cardiovascular • endocrine • digestive
31.0	Understand the theories and practices of human movement science and exercise metabolism. The students will be able to:
31.01	Classify health fitness standards, including components of wellness, describe health appraisals, fitness assessments, and exercise prescriptions. This would include: • collecting subjective information from clients using health screening assessments • conducting physiological assessments • conducting cardiorespiratory assessments • conduct posture assessments • conduct movement assessments • conduct performance assessments
31.02	Assess and research various techniques to assess body composition and its relationship to the assessment of recommended body weight.
31.03	Demonstrate an understanding of common training types, including Flexibility, Cardiorespiratory, Core, Balance, Plyometric (Reactive), Resistance; Speed, Agility, and Quickness.
31.04	Define cardio-respiratory endurance and the benefits of cardio-respiratory endurance training.
31.05	Define and identify the principles that govern cardio-respiratory exercise prescription: Frequency, Intensity, Time, Type, and Enjoyment of Exercise (FITTE).
31.06	Differentiate between muscular strength and muscular endurance and types.
31.07	Define and understand muscular flexibility.
31.08	Summarize the scientific terminology that governs exercise and movement, such as directional terms and body planes. (From 30.01)
31.09	Compare and contrast the different muscle contractions, including concentric, eccentric, and isometric. (From 30.03)

CTE Standards and Benchmarks	
31.10	Identify the origin, insertion, and action for each major muscle.
31.11	Describe the relationship between the agonist, antagonist, fixators, and synergist for muscle movement.
31.12	Evaluate and explain the physiology of weight loss, weight gain, and weight management.
31.13	Define aerobic and anaerobic exercise and examples of each.
31.14	Demonstrate an understanding of length tension relationship and how it relates to muscles and human movement.
31.15	Demonstrate an understanding of the concept of force coupling and how it relates to muscles and human movement.
31.16	Define and describe factors on how to select appropriate, safe, and effective methods of exercise, including the needs and limitations of special populations such as youth/children, older adults, pregnancy, obese, diabetic, hypertensive, heart disease, osteoporotic, arthritic, and lung disease clientele.
31.17	Prepare and develop exercise prescriptions to aid individuals with personal health goals.
32.0	Classify risk factors for fitness and exercise activities and identify proper medical referrals needed to modify a fitness plan. The students will be able to:
32.01	Demonstrate skills necessary to recognize the risk factors associated with strength and fitness participation.
32.02	Demonstrate knowledge and understanding of the risk factors associated with fitness-related injuries.
32.03	Demonstrate safe and proper techniques in using fitness and personal training equipment/modalities.
32.04	Define and describe the safe and effective use of selected exercise training methods, including various forms of resistance and proprioception modalities.
32.05	Identify risk factors that may interfere with safe participation in exercise.
32.06	Evaluate the physiological effects of illness (including: obesity, diabetes, hypertension, heart disease, osteoporosis, arthritis, lung disease), alcohol, and tobacco.
33.0	Apply basic principles of nutrition and wellness in assessing health and wellness. The students will be able to:
33.01	Identify strategies that empower clientele to make nutritional decisions based on determining reliability, validity, and credibility of nutrition information from various source types.
33.02	Discuss the national Dietary Guidelines for Americans.
33.03	Demonstrate a basic understanding of supplementation use in fitness and athletic performance to address client wellbeing during activity and refer as needed.
33.04	Create a nutrition and wellness research paper.

CTE Standards and Benchmarks	
34.0	Understand and define the psychosocial aspects of health and fitness. The students will be able to:
34.01	Describe the characteristics of a positive client experience, including client expectations and structured initial client sessions for optimal effectiveness.
34.02	Assess a client's stage in changing unwanted behaviors and implement behavior change techniques to enhance exercise adherence.
34.03	Describe characteristics of effective communication and rapport building.
34.04	Describe the elements of effective SMART goal-setting techniques.
34.05	Identify the psychological benefits of regular exercise and social influences on exercise adherence and support.
34.06	Perform client education utilizing concepts of communication and differing learning styles.
34.07	Compare and contrast lifestyle factors that improve health and increase longevity.
34.08	Prepare and explain a beneficial lifetime exercise program and staying healthy in relation to cardio-respiratory exercise prescriptions.
34.09	Define and understand the role of fitness in relation to stress management and maintaining health.
34.10	Describe the relationship between fitness and aging.

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.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.ELL.SI.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 at sala@fldoe.org.

Special Notes

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. For more information on this exam please visit www.acsm.org

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)

CTSOs are co-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered. Other CTSOs not listed in this curriculum framework or recognized by the Florida Department of Education are permissible provided they support student mastery over the standards and benchmarks of this curriculum framework.

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.