Florida Department of Education
Curriculum Framework

Course Title: **Exploring Technology and Career Planning***
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Engineering & Technology Education**

Secondary – Middle School	
Course Number	8600220
CIP Number	08210122CP
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section
CTSO	FL-TSA

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to give students an opportunity to explore the area of production technology and its associated careers. Course requirements are consistent with 8600020 Exploring Technology with the addition of the career and education planning course requirements. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of production technology on our everyday lives.

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Engineering and Technology Education career cluster. The content includes but is not limited to providing the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of production technology on our everyday lives. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8600220	Exploring Technology and Career Planning	ENG 7G ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester

Standards

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

01.0   Demonstrate an understanding of the characteristics and scope of technology.
02.0   Demonstrate an understanding of the core concepts of technology.
03.0   Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.
04.0   Demonstrate an understanding of the cultural, social, economic, and political effects of technology.
05.0   Demonstrate an understanding of the effects of technology on the environment.
06.0   Demonstrate an understanding of the role of society in the development and use of technology.
07.0   Demonstrate an understanding of the influence of history on technology.
08.0   Demonstrate an understanding of the attributes of design.
09.0   Demonstrate an understanding of engineering design.
10.0   Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.
11.0   Demonstrate the abilities to apply the design process.
12.0   Demonstrate the abilities to use and maintain technological products and systems.
13.0   Demonstrate the abilities to assess the impact of products and systems.
14.0   Demonstrate an understanding of and be able to select and use medical technologies.
15.0   Demonstrate an understanding of and be able to select and use agricultural and related biotechnologies.
16.0   Demonstrate an understanding of and be able to select and use energy and power technologies.
17.0   Demonstrate an understanding of and be able to select and use information and communication technologies.
18.0   Demonstrate an understanding of and be able to select and use transportation technologies.
19.0   Demonstrate an understanding of and be able to select and use manufacturing technologies.
20.0   Demonstrate an understanding of and be able to select and use construction technologies.
21.0   Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.
22.0   Exhibit positive human relations and leadership skills.
23.0   Discuss individual interests, aptitudes, and opportunities as they relate to a career.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156 Florida Statutes.

24.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0   Develop skills to locate, evaluate, and interpret career information.
26.0   Identify and demonstrate processes for making short and long term goals.
27.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0   Understand the relationship between educational achievement and career choices/postsecondary options.
29.0   Identify a career cluster and related pathways that match career and education goals.
30.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploring Technology and Career Planning**
Course Number: **8600220**
Course Length: **Semester**

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.
02.10 Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0 Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
03.01 Modify the way technological systems interact with one another.

	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of history on technology.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.
08.0		Demonstrate an understanding of the attributes of design.--The student will be able to:

CTE Standards and Benchmarks

	08.01	Use design as a creative planning process that leads to useful products and systems.
	08.02	Explain why there is no perfect design.
	08.03	Evaluate criteria and constraints that are requirements for a design.
	08.04	Demonstrate the ability to properly identify different resources used in projects.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:	
	09.01	Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02	Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:	
	10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02	Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03	Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:	
	11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02	Specify criteria and constraints for the design.
	11.03	Make two-dimensional and three-dimensional representations of the designed solution.
	11.04	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05	Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:	
	12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03	Use computers and calculators in various applications.

CTE Standards and Benchmarks

	12.04	Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:	
	13.01	Design and use instruments to gather data.
	13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
14.0	Demonstrate an understanding of and be able to select and use medical technologies.--The student will be able to:	
	14.01	Describe how advances and innovations in medical technologies are used to improve healthcare.
	14.02	Describe how sanitation processes used in the disposal of medical products help to protect people from harmful organisms and disease, and shape the ethics of medical safety.
	14.03	Explain how the vaccines developed for use in immunization require specialized technologies to support environments in which a sufficient amount of vaccines are produced.
	14.04	Describe genetic engineering involving modifying the structure of DNA to produce novel genetic make-ups.
15.0	Demonstrate an understanding of and be able to select and use agricultural and related biotechnologies.--The student will be able to:	
	15.01	Describe technological advances in agriculture directly affecting the time and number of people required to produce food for a large population.
	15.02	Describe how a wide range of specialized equipment and practices is used to improve the production of food, fiber, fuel, and other useful products and in the care of animals.
	15.03	Explain how biotechnology applies the principles of biology to create commercial products or processes.
	15.04	Create artificial ecosystems that are human-made complexes that replicate some aspects of natural environments.
	15.05	Explain how the development of refrigeration, freezing, dehydration, preservation, and irradiation provide long-term storage of food and reduce the health risks caused by tainted food.
16.0	Demonstrate an understanding of and be able to select and use energy and power technologies.--The student will be able to:	
	16.01	Define energy as the capacity to do work.
	16.02	Explain how energy can be used to do work, using many processes.
	16.03	Define power as the rate at which energy is converted from one form to another or transferred from one place to another, or the rate at which work is done.
	16.04	Describe power systems used to drive and provide propulsion to other technological products and systems.

CTE Standards and Benchmarks

	16.05	Explain how much of the energy used in our environment is not used efficiently.
17.0	Demonstrate an understanding of and be able to select and use information and communication technologies.--The student will be able to:	
	17.01	Create information and communication systems that allow information to be transferred from human to human, human to machine, machine to machine, and machine to human.
	17.02	Describe communication systems made up of a source, encoder, transmitter, receiver, decoder, and destination.
	17.03	Consider factors that influence the design of a message, such as the intended audience, medium, purpose, and nature of the message.
	17.04	Use symbols, measurements, and drawings to promote clear communication by providing a common language to express ideas.
18.0	Demonstrate an understanding of and be able to select and use transportation technologies.--The student will be able to:	
	18.01	Describe how transporting people and goods involve a combination of individuals and vehicles.
	18.02	Describe subsystems of transportation vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.
	18.03	Summarize processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing, communicating, and using conventions are necessary for the entire transportation system to operate efficiently.
	18.04	Describe how governmental regulations often influence the design and operation of transportation systems.
19.0	Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:	
	19.01	Describe manufacturing systems using mechanical processes that change the form of materials through processes of separating, forming, combining, and conditioning them.
	19.02	Classify manufactured goods as durable and non-durable.
	19.03	Employ the manufacturing process including the designing, development, making, and servicing of products and systems.
	19.04	Describe manufacturing technologies that are used to modify or alter manufactured products.
	19.05	Explain that materials must first be located before they can be extracted from the earth through processes such as harvesting, drilling, and mining.
20.0	Demonstrate an understanding of and be able to select and use construction technologies.--The student will be able to:	
	20.01	Research building laws and codes.
	20.02	Identify factors such as style, convenience, cost, climate, and function in the selection of designs for structures.
	20.03	Explain that structures rest on a foundation.
	20.04	Classify structures as temporary or permanent.

CTE Standards and Benchmarks
20.05 Describe subsystems of a building.
21.0 Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
21.01 Follow classroom/laboratory safety rules and procedures.
21.02 Demonstrate good housekeeping at workstations within a total laboratory.
21.03 Conduct classroom/laboratory activities and equipment operations in a safe manner.
21.04 Exercise care and respect for all tools, equipment, and materials.
21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
21.06 Identify color-coding safety standards.
21.07 Safely use hand tools and power equipment.
21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0 Exhibit positive human relations and leadership skills.--The student will be able to:
22.01 Perform roles in a student personnel system or in the Florida Technology Student Association (FL-TSA).
22.02 Work cooperatively with others.
23.0 Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
23.01 Identify individual strengths and weaknesses.
23.02 Discuss individual interests related to a career.
23.03 Identify careers within specific areas of technology.
23.04 Explore careers within specific areas of interest.
23.05 Form an understanding and appreciation for work after listening to or observing technology workers.
23.06 Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
23.07 Form an understanding and appreciation for the roles and work of co-workers.

CTE Standards and Benchmarks

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156 Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Integrated Technology Studies and Career Planning***
Program Type: **Orientation/Exploratory**
Career Cluster: **Engineering & Technology Education**

Secondary – Middle School	
Program Number	8600360
CIP Number	08210101MS
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Program Structure** section
CTSO	FL-TSA

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this program is to provide students with a foundation of knowledge and technically oriented experiences in the study of the applications of technology and its effect upon our lives and the choosing of an occupation. The content and activities will also include the study of safety, and leadership skills. This program focuses on transferable skills and stresses understanding and demonstration of the technological tools, machines, instruments, materials, processes and systems in business and industry.

The emphasis of this program is on developing awareness of future needs, developing technological competence, confidence and awareness through interaction with technologies, developing awareness of other career programs, interacting with business, industry and community organizations, applying basic skills in learning activities, and developing self-awareness of individual abilities, needs and interests. The courses are intended to help students develop their problem-solving skills and creativity while learning about technology and careers in the Engineering & Technology Education career cluster. Students will learn to gather data through research and testing, as well as to document their results and processes.

The content includes introductory studies in areas of technology which introduce students to the development of abilities to calculate, make important observation's, analyze and solve problems using manipulative skills while working cooperatively with others in team activities.

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

Program Structure

This program contains a series of instructional courses listed below.
The lengths of these courses are one semester. They may be offered for two semesters when appropriate. When offered for one semester, it is recommended that the course be at the exploratory level and more in-depth when offered for two semesters.

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 course structure:

Course Number	Course Title	Teacher Certification	Length
8600012	Introduction to Technology and Career Planning	ENG 7G	Semester
8600220	Exploring Technology and Career Planning	ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600032	Exploration of Communications Technology and Career Planning	COMM ART @7 7G ENG 7G GRAPH ARTS @4 PRINTING @7 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600042	Exploration of Production Technology and Career Planning	AUTO PROD 7G BLDG CONST @7 7G BLDG MAINT @7 7G CARPENTRY @7 7G ENG 7G ENG TEC 7G METALWORK 7G PLTW PTE 7G TEC CONSTR @7 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600052	Exploration of Aerospace Technology and Career Planning	AEROSPACE 7G ENG 7G ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester

Course Number	Course Title	Teacher Certification	Length
8600242	Exploration of Transportation Technology and Career Planning	AIR MECH @7 7G AUTO IND @7 %7 %G AUTO MECH @7 7G DIESEL MECH @7 7G ENG 7G GASENG RPR @7 7G TEC ED 1 @2 ENG&TEC ED1@2 TEC MECH 7G TRANSPORT 7G	Semester
8600252	Exploration of Power and Energy Technology and Career Planning	AUTO IND @7 %7 %G AUTO MECH @7 7G DIESEL MECH @7 7G ENG 7G GASENG RPR @7 7G TEC ED 1 @2 ENG&TEC ED1@2 TEC MECH 7G TRANSPORT 7G	Semester
8600062	Exploration of Engineering Technology and Career Planning	ENG 7G ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600072	Exploration of Robotics Technology and Career Planning	ENG 7G ENG TEC 7G ROBOTICS 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600082	Exploration of Technical Design Technology and Career Planning	DRAFTING @7 7G ENG 7G ENG TEC 7G GRAPH ARTS @4 PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600095	Exploration of Electronics Technology and Career Planning	ELECTRICAL @7 7G ELECTRONIC @7 7G ENG 7G ENG TEC 7G PLTW PTE 7G	Semester

Course Number	Course Title	Teacher Certification	Length
		TEC ED 1 @2 ENG&TEC ED1@2 TEC ELEC @7 7G	
8600096	Exploration of Maritime Technology and Career Planning	ENG 7G ENG TEC 7G SEAMANSHIP 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600097	Exploration of Logistics and Supply Chain Technology and Career Planning	BUS ED 1 ENG 7G ENG TEC 7G LOG TECH 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600098	Exploration of Green Construction and Architecture Technology and Career Planning	BLDG CONST @7 7G BLDG MAINT @7 7G CARPTENTRY @7 7G DRAFTING @7 7G ENG 7G ENG TEC 7G PLTW PTE 7G TEC CONSTR @7 7G TEC DRAFT 7G TEC ED 1 @2 ENG&TEC ED1@2 WOODWORKIN @4	Semester

Standards

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

01.0   Demonstrate an understanding of the characteristics and scope of technology.
02.0   Demonstrate an understanding of the core concepts of technology.
03.0   Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.
04.0   Demonstrate an understanding of the cultural, social, economic, and political effects of technology.
05.0   Demonstrate an understanding of the effects of technology on the environment.
06.0   Demonstrate an understanding of the role of society in the development and use of technology.
07.0   Demonstrate an understanding of the influence of technology on history.
08.0   Demonstrate an understanding of the attributes of design.
09.0   Demonstrate an understanding of engineering design.
10.0   Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.
11.0   Demonstrate the abilities to apply the design process.
12.0   Demonstrate the abilities to use and maintain technological products and systems.
13.0   Demonstrate the abilities to assess the impact of products and systems.
14.0   Demonstrate an understanding of and be able to select and use medical technologies.
15.0   Demonstrate an understanding of and be able to select and use agricultural and related biotechnologies.
16.0   Demonstrate an understanding of and be able to select and use energy and power technologies.
17.0   Demonstrate an understanding of and be able to select and use information and communications technologies.
18.0   Demonstrate an understanding of and be able to select and use transportation technologies.
19.0   Demonstrate an understanding of and be able to select and use manufacturing technologies.
20.0   Demonstrate an understanding of and be able to select and use construction technologies.
21.0   Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.
22.0   Exhibit positive human relations and leadership skills.
23.0   Discuss individual interests, aptitudes, and opportunities as they relate to a career.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

24.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0   Develop skills to locate, evaluate, and interpret career information.
26.0   Identify and demonstrate processes for making short and long term goals.
27.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0   Understand the relationship between educational achievement and career choices/postsecondary options.
29.0   Identify a career cluster and related pathways that match career and education goals.
30.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Exploration of Communications Technology

32.0   Demonstrate an application of basic digital publishing techniques.
33.0   Identify and describe the major types of printing techniques used in print production.
34.0   Identify and demonstrate the role of electronic communication.
35.0   Identify and demonstrate the role of optical technology.

Exploration of Production Technology

36.0   Identify evolving technologies of Production Systems.
37.0   Perform special skills unique to Manufacturing Technology.
38.0   Express knowledge of factors that impact Manufacturing Technologies and practices.

Exploration of Aerospace Technology

39.0   Discuss educational and training requirements as they relate to various aerospace careers.
40.0   Demonstrate an understanding of and be able to select and use aerospace technologies.
41.0   Demonstrate knowledge of the basic principles of aerostatics and aerodynamics.
42.0   Identify and demonstrate knowledge of both liquid and solid propellant rocket propulsion systems.
43.0   Define and describe the stages and forms of interference in basic satellite communication systems.
44.0   Become familiar with the basic information provided by a sectional chart.
45.0   Describe and define different categories of aviation.

Exploration of Transportation Technology

46.0   Perform special skills unique to transportation technologies.
47.0   Express knowledge of the industries that deal with transportation technology.

Exploration of Power and Energy Technology

48.0   Perform special skills unique to power and energy technologies.
49.0   Express knowledge of the industries that deal with power and energy technology.

Exploration of Engineering Technology

50.0   Demonstrate skill in technical sketching and drawing as it relates to engineering design.
51.0   Demonstrate foundational knowledge and skills associated with the design of engineering systems (e.g. mechanical, fluid, electrical systems).
52.0   Demonstrate understanding and use of measurement tools and systems.
53.0   Demonstrate an understanding of the engineering process.
54.0   Demonstrate foundational knowledge and skills associated with common computer peripherals and computer functions.
55.0   Demonstrate an understanding of Internet safety and ethics.

56.0   Develop fundamental business productivity software skills.
57.0   Successfully work as a member of a team.

Exploration of Robotics Technology

58.0   Demonstrate an understanding of robotics, its history, applications, and evolution.
59.0   Demonstrate an understanding of basic programming concepts.
60.0   Identify the basic subsystems on a robotic system.
61.0   Describe the role of sensors in the field of robotics.
62.0   Build, program, and configure a robot to perform predefined tasks.
63.0   Solve problems using critical thinking skills, creativity and innovation.

Exploration of Technical Design Technology

64.0   Demonstrate technical skills and applications common to all types of drafting.
65.0   Demonstrate technical knowledge and skills for making basic orthographic drawings.
66.0   Demonstrate technical knowledge and skills for making pictorial drawings.
67.0   Demonstrate technical knowledge and skills for making a three-dimensional study model.

Exploration of Electronics Technology

68.0   Demonstrate an understanding of the nature of electricity.
69.0   Explore the basics of electric circuits.
70.0   Investigate digital signals and basic digital components.
71.0   Demonstrate and apply proper use of electronic equipment.
72.0   Demonstrate proper electronic assembly methods.

Exploration of Maritime Technology

73.0   Demonstrate knowledge relating to the historical origins of the maritime industry from vessel development, cultural, and trade perspectives.
74.0   Demonstrate proficiency in understanding the various career paths in the maritime industry.
75.0   Demonstrate an understanding of required skills sets by mariners including, safety training, regulations, and leadership.
76.0   Demonstrate proficiency in using engineering methods for ship construction and design.
77.0   Identify and explain various vessels and their and their use.
78.0   Evaluate the environmental impact of the maritime industry.
79.0   Examine the potential and use of marine resources.
80.0   Demonstrate an understanding of oceanography concepts.
81.0   Demonstrate an understanding of the fundamentals of marine biology.

Exploration of Logistics and Supply Chain Technology

82.0   Demonstrate an understanding of global logistics and supply chain.

83.0   Demonstrate an understanding of transportation systems.
84.0   Demonstrate professional communication skills.
85.0   Demonstrate customer service skills.
86.0   Demonstrate an understanding of warehouse operations.
87.0   Demonstrate an understanding of storage and control operations.

Exploration of Green Construction and Architecture Technology

88.0   Demonstrate an understanding of the built environment.
89.0   Demonstrate an understanding of the green environment.
90.0   Use building laws and codes, style, convenience, cost, climate, and function to select building designs.
91.0   Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
92.0   Describe the human impact on the environment and identify ways to minimize environmental impacts.
93.0   Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions and accurately measure drawing dimensions.

Florida Department of Education
Student Performance Standards

Course Title: Introduction to Technology and Career Planning
Course Number: 8600012
Course Length: Semester
Teacher Certification: Refer to the **Program Structure** section

Course Description:

The purpose of this course is to give students an introduction to the areas of technology and to introduce students to the design and problem solving processes using manipulative skills while working cooperatively with others in team activities.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Identify technological systems including input, processes, output, and, at times, feedback.
02.02 Define systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control system using feedback.
02.04 Identify how technological systems can be connected to one another.
02.05 Diagnose malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Identify requirements or parameters placed on the development of a product or system.
02.07 Identify trade-offs as a decision process recognizing the need for careful compromises among competing factors.
03.0 Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
03.01 Explain how technological systems interact with one another.
03.02 Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0 Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:

CTE Standards and Benchmarks

04.01	Describe ethical issues associated with the development and use of technology.
04.02	Describe the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	**Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:**
05.01	Describe the management of waste produced by technological systems as an important societal issue.
05.02	Identify how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
06.0	**Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:**
06.01	Identify changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
06.02	Understand how social and cultural priorities and values are reflected in technological devices.
07.0	**Demonstrate an understanding of the influence of technology on history.--The student will be able to:**
07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
07.02	Explain how the specialization of function has been at the heart of many technological improvements.
08.0	**Demonstrate an understanding of the attributes of design.--The student will be able to:**
08.01	Use design as a creative planning process that leads to useful products and systems.
08.02	Explain why there is no perfect design.
08.03	Identify criteria and constraints that are requirements for a design.
08.04	Demonstrate the ability to properly identify different resources used in projects.
09.0	**Demonstrate an understanding of engineering design.--The student will be able to:**
09.01	Identify the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
09.02	Define brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	**Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:**
10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
10.02	Define invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
10.03	Identify technological problems that are best solved through experimentation.
11.0	**Demonstrate the abilities to apply the design process.--The student will be able to:**
11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.

CTE Standards and Benchmarks

	11.02	Specify criteria and constraints for the design.
	11.03	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.04	Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:	
	12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03	Use computers and calculators in various applications.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:	
	13.01	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
	13.02	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
14.0	Demonstrate an understanding of and be able to select and use medical technologies.--The student will be able to:	
	14.01	Explain how advances and innovations in medical technologies are used to improve healthcare.
	14.02	Explain how the vaccines developed for use in immunization require specialized technologies to support environments in which a sufficient amount of vaccines are produced.
15.0	Demonstrate an understanding of and be able to select and use agricultural and related biotechnologies.--The student will be able to:	
	15.01	Identify technological advances in agriculture directly affecting the time and number of people required to produce food for a large population.
	15.02	Explain how biotechnology applies the principles of biology to create commercial products or processes.
16.0	Demonstrate an understanding of and be able to select and use energy and power technologies.--The student will be able to:	
	16.01	Define energy as the capacity to do work.
	16.02	Explain how energy can be used to do work, using many processes.
	16.03	Define power systems used to drive and provide propulsion to other technological products and systems.
17.0	Demonstrate an understanding of and be able to select and use information and communication technologies.--The student will be able to:	
	17.01	Identify information and communication systems that allow information to be transferred from human to human, human to machine, machine to machine, and machine to human.
	17.02	Define communication systems made up of a source, encoder, transmitter, receiver, decoder, and destination.
18.0	Demonstrate an understanding of and be able to select and use transportation technologies.--The student will be able to:	
	18.01	Describe how transporting people and goods involve a combination of individuals and vehicles.
	18.02	Identify subsystems of transportation vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.

CTE Standards and Benchmarks	
19.0	Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:
	19.01 Define manufacturing systems using mechanical processes that change the form of materials through processes of separating, forming, combining, and conditioning them.
	19.02 Classify manufactured goods as durable and non-durable.
	19.03 Define manufacturing technologies that are used to modify or alter manufactured products.
	19.04 Explain that materials must first be located before they can be extracted from the earth through processes such as harvesting, drilling, and mining.
20.0	Demonstrate an understanding of and be able to select and use construction technologies.--The student will be able to:
	20.01 Identify factors such as style, convenience, cost, climate, and function in the selection of designs for structures.
	20.02 Explain that structures rest on a foundation.
	20.03 Classify structures as temporary or permanent.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
	21.01 Follow classroom/laboratory safety rules and procedures.
	21.02 Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03 Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04 Exercise care and respect for all tools, equipment, and materials.
	21.05 Identify color-coding safety standards.
	21.06 Safely use hand tools and power equipment.
	21.07 Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.08 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
	22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02 Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
	23.01 Describe individual strengths and weaknesses.
	23.02 Discuss individual interests related to a career.
	23.03 Identify careers within specific areas of technology.
	23.04 Explore careers within specific areas of interest.

CTE Standards and Benchmarks

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploring Technology and Career Planning**
Course Number: **8600220**
Course Length: **Semester**
Teacher Certification: **Refer to the <u>Program Structure</u> section**

Course Description:

The purpose of this course is to give students an opportunity to explore the areas of technology and associated careers available in technical fields. Students will be given the opportunity to solve technological problems while gaining an understanding of the effects of technology on our everyday lives.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0		Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify how the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks

08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
	08.04 Demonstrate the ability to properly identify different resources used in projects.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.

	13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
14.0		Demonstrate an understanding of and be able to select and use medical technologies.--The student will be able to:
	14.01	Describe how advances and innovations in medical technologies are used to improve healthcare.
	14.02	Describe how sanitation processes used in the disposal of medical products help to protect people from harmful organisms and disease, and shape the ethics of medical safety.
	14.03	Explain how the vaccines developed for use in immunization require specialized technologies to support environments in which a sufficient amount of vaccines are produced.
	14.04	Describe genetic engineering involving modifying the structure of DNA to produce novel genetic make-ups.
15.0		Demonstrate an understanding of and be able to select and use agricultural and related biotechnologies.--The student will be able to:
	15.01	Describe technological advances in agriculture directly affecting the time and number of people required to produce food for a large population.
	15.02	Describe how a wide range of specialized equipment and practices is used to improve the production of food, fiber, fuel, and other useful products and in the care of animals.
	15.03	Explain how biotechnology applies the principles of biology to create commercial products or processes.
	15.04	Create artificial ecosystems that are human-made complexes that replicate some aspects of natural environments.
	15.05	Explain how the development of refrigeration, freezing, dehydration, preservation, and irradiation provide long-term storage of food and reduce the health risks caused by tainted food.
16.0		Demonstrate an understanding of and be able to select and use energy and power technologies.--The student will be able to:
	16.01	Define energy as the capacity to do work.
	16.02	Explain how energy can be used to do work, using many processes.
	16.03	Define power as the rate at which energy is converted from one form to another or transferred from one place to another, or the rate at which work is done.
	16.04	Describe power systems used to drive and provide propulsion to other technological products and systems.
	16.05	Explain how much of the energy used in our environment is not used efficiently.
17.0		Demonstrate an understanding of and be able to select and use information and communication technologies.--The student will be able to:
	17.01	Create information and communication systems that allow information to be transferred from human to human, human to machine, machine to machine, and machine to human.
	17.02	Describe communication systems made up of a source, encoder, transmitter, receiver, decoder, and destination.
	17.03	Consider factors that influence the design of a message, such as the intended audience, medium, purpose, and nature of the message.

CTE Standards and Benchmarks

	17.04	Use symbols, measurements, and drawings to promote clear communication by providing a common language to express ideas.
18.0	**Demonstrate an understanding of and be able to select and use transportation technologies.--The student will be able to:**	
	18.01	Describe how transporting people and goods involve a combination of individuals and vehicles.
	18.02	Describe subsystems of transportation vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.
	18.03	Summarize processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing, communicating, and using conventions are necessary for the entire transportation system to operate efficiently.
	18.04	Describe how governmental regulations often influence the design and operation of transportation systems.
19.0	**Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:**	
	19.01	Describe manufacturing systems using mechanical processes that change the form of materials through processes of separating, forming, combining, and conditioning them.
	19.02	Classify manufactured goods as durable and non-durable.
	19.03	Employ the manufacturing process including the designing, development, making, and servicing of products and systems.
	19.04	Describe manufacturing technologies that are used to modify or alter manufactured products.
	19.05	Explain that materials must first be located before they can be extracted from the earth through processes such as harvesting, drilling, and mining.
20.0	**Demonstrate an understanding of and be able to select and use construction technologies.--The student will be able to:**	
	20.01	Research building laws and codes.
	20.02	Identify factors such as style, convenience, cost, climate, and function in the selection of designs for structures.
	20.03	Explain that structures rest on a foundation.
	20.04	Classify structures as temporary or permanent.
	20.05	Describe subsystems of a building.
21.0	**Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:**	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.

CTE Standards and Benchmarks
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
	23.01	Identify individual strengths and weaknesses.
	23.02	Discuss individual interests related to a career.
	23.03	Identify careers within specific areas of technology.
	23.04	Explore careers within specific areas of interest.
	23.05	Form an understanding and appreciation for work after listening to or observing technology workers.
	23.06	Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
	23.07	Form an understanding and appreciation for the roles and work of technology workers.

Listed below are the eight career and education planning course standards:

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Communications Technology and Career Planning**
Course Number: **8600032**
Course Length: **Semester**
Teacher Certification: **Refer to the <u>Program Structure</u> section**

Course Description:

The purpose of this course is to give students an opportunity to explore the area of communications technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of communications technology on our everyday lives. A list of minimum tools and equipment to implement this course is located at the end of this framework.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01   Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02   Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03   Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04   (Explain, Demonstrate) how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0   Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01   Identify technological systems including input, processes, output, and, at times, feedback.
02.02   Apply systems thinking, involving considering how every part relates to others.
03.0   Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
03.01   Apply a product, system, or environment developed for one setting in another setting.
03.02   Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0   Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
04.01   Describe the ways that the use of communication technologies affects humans, including their safety, comfort, choices, and attitudes.
04.02   Explain that communication technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.

CTE Standards and Benchmarks	
04.03	Describe ethical issues associated with the development and use of communication technology.
04.04	Describe the economic, political, and cultural issues that are influenced by the development and use of communication technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
05.01	Describe the management of waste produced by communication technological systems as an important societal issue.
05.02	Identify how communication technologies can be affected by natural disaster.
05.03	Make decisions about the development and use of communication technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
06.03	Describe social and cultural priorities and values that are reflected in technological devices.
06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
07.01	Describe inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
07.02	Explain how the specialization of function has been at the heart of many technological improvements.
07.03	Explain that in the past, an invention or innovation was not usually developed with the knowledge of science.
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
08.01	Use design as a creative planning process that leads to useful products and systems.
08.02	Explain why there is no perfect design.
08.03	Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
09.01	Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
09.02	Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
10.02	Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of

		modifying an existing product or system to improve it.
	10.03	Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:	
	11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02	Specify criteria and constraints for the design.
	11.03	Make two-dimensional and three-dimensional representations of the designed solution.
	11.04	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05	Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:	
	12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03	Use computers and calculators in various applications.
	12.04	Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:	
	13.01	Design and use instruments to gather data.
	13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
17.0	Demonstrate an understanding of and be able to select and use information and communication technologies.--The student will be able to:	
	17.01	Create information and communication that allow information to be transferred from human to human, human to machine, machine to machine, and machine to human.
	17.02	Consider factors that influence the design of a message, such as the intended audience, medium, purpose, and nature of the message.
	17.03	Use symbols, measurements, and drawings to promote clear communication by providing a common language to express ideas.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.

CTE Standards and Benchmarks	
	21.04 Exercise care and respect for all tools, equipment, and materials.
	21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06 Identify color-coding safety standards.
	21.07 Safely use hand tools and power equipment.
	21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
	22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02 Work cooperatively with others.
23.0	Discuss individual interests and aptitudes as they relate to a career.--The student will be able to:
	23.01 Identify individual strengths and weaknesses.
	23.02 Discuss individual interests related to a career.
	23.03 List occupations, job requirements, and job opportunities in communication technology.
	23.04 List academic and career programs at the secondary levels in communication technology.

Listed below are the eight career and education planning course standards:

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.

CTE Standards and Benchmarks
32.0 Demonstrate an application of basic digital publishing techniques.--The student will be able to:
32.01 Utilize digital publishing to combine input, editing, and output into a finished product.
32.02 Utilize the components of layouts including type, typography and illustration to digitally manipulate the elements of a published product.
32.03 Develop a web page using appropriate digital software.
32.04 Create a document on a digital publishing system by inputting existing digitized graphics or by digitizing original art or photographs on a digitizing scanner.
33.0 Identify and describe the major types of printing techniques used in print production.--The student will be able to:
33.01 Identify and explain standard printing processes including but not limited to: relief, gravure, screen process, and lithographic printing.
33.02 Utilize common design principles to create camera ready art.
33.03 Produce a printed product using a current printing method.
33.04 Utilize appropriate finishing techniques on a printed project.
34.0 Identify and demonstrate the role of electronic communication.--The student will be able to:
34.01 Explain how to create code, transmit, and receive messages using electronic devices.
34.02 List and explain the common communication categories.
34.03 Define and explain the use of telecommunications in everyday life.
34.04 Utilize a telecommunications device to transmit and receive an electronic message.
34.05 Produce an audio and/or visual product using electronic communication technology.
35.0 Identify and demonstrate the role of optical technology.--The student will be able to:
35.01 Identify the purposes and property of light as used in communication technology.
35.02 Explain how light signals are transmitted and received via different optical devices to include but not limited to: fiber optics, satellite communication, bandwidth, laser, and photography.
35.03 Generate a product using optical technology.

*** Minimum Equipment and Tool needs for an Exploration of Communications Technology and Career Planning course ***

1. No more than a 2 students/computer ratio complete with built in DVD drive; appropriate furniture; lockdowns, and chairs
2. Class set plus 5 of textbooks
3. Software (all to include site licenses): publishing; design; word processing; office management; Photoshop or equal; illustrator or equal; 3D animation
4. One working color inkjet/laser printer

5.	Internet access to the entire lab
6.	One teacher computer station with an ergonomic chair (height adjustable, cushioned, on wheels)
7.	One scanner
8.	Three digital cameras

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Production Technology and Career Planning
Course Number: 8600042
Course Length: Semester
Teacher Certification: Refer to the <u>Program Structure</u> section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of production technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of production technology on our everyday lives.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01	Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02	Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03	Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04	Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0	Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01	Describe technological systems including input, processes, output, and, at times, feedback.
02.02	Apply systems thinking, involving considering how every part relates to others.
02.03	Identify control systems having no feedback path and requiring human intervention, and control system using feedback.
02.04	Explain how technological systems can be connected to one another.
02.05	Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06	Compare and contrast requirements or parameters placed on the development of a product or system.
02.07	Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08	Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.
02.09	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.

CTE Standards and Benchmarks	
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01 Modify the way technological systems interact with one another.
	03.02 Apply a product, system, or environment developed for one setting in another setting.
	03.03 Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01 Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02 Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03 Identify ethical issues associated with the development and use of technology.
	04.04 Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01 Describe the management of waste produced by technological systems as an important societal issue.
	05.02 Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03 Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01 Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02 Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03 Understand social and cultural priorities and values that are reflected in technological devices.
	06.04 Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01 Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02 Explain how the specialization of function has been at the heart of many technological improvements.
	07.03 Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04 Explain that in the past, an invention or innovation was not usually developed with the knowledge of science.
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:

08.01	Use design as a creative planning process that leads to useful products and systems.
08.02	Explain why there is no perfect design.
08.03	Evaluate criteria and constraints that are requirements for a design.
09.0	**Demonstrate an understanding of engineering design.--The student will be able to:**
09.01	Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
09.02	Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	**Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:**
10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
10.02	Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
10.03	Identify technological problems that are best solved through experimentation.
11.0	**Demonstrate the abilities to apply the design process.--The student will be able to:**
11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.
11.02	Specify criteria and constraints for the design.
11.03	Make two-dimensional and three-dimensional representations of the designed solution.
11.04	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
11.05	Make a product or system and document the solution.
12.0	**Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:**
12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
12.03	Use computers and calculators in various applications.
12.04	Operate and maintain systems in order to achieve a given purpose.
13.0	**Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:**
13.01	Design and use instruments to gather data.
13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
13.03	Identify trends and monitor potential consequences of technological development.

CTE Standards and Benchmarks

	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
19.0	Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:	
	19.01	Describe manufacturing systems using mechanical processes that change the form of materials through processes of separating, forming, combining, and conditioning them.
	19.02	Classify manufactured goods as durable and non-durable.
	19.03	Employ the manufacturing process including the designing, development, making, and servicing of products and systems.
	19.04	Describe manufacturing technologies that are used to modify or alter manufactured products.
	19.05	Explain that materials must first be located before they can be extracted from the earth through processes such as harvesting, drilling, and mining.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:	
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:	
	23.01	Identify individual strengths and weaknesses.
	23.02	Discuss individual interests related to a career.
	23.03	List occupations, job requirements, and job opportunities in production technology.
	23.04	List occupational training programs and academic programs at the secondary/postsecondary levels in production technology.

	CTE Standards and Benchmarks

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
36.0	Identify evolving technologies of production systems.--The student will be able to:
	36.01 List evolving technologies of manufacturing and construction industries.
	36.02 Discuss the evolution of technologies related to manufacturing systems and construction processes.
	36.03 Brainstorm futuristic production systems.
37.0	Perform special skills unique to manufacturing technology.--The student will be able to:
	37.01 Design a product for custom or mass production manufacturing.
	37.02 Plan a mass production system for manufacturing a product.
	37.03 Perform materials forming practices such as casting or molding, and compressing or stretching.
	37.04 Perform materials separating practices such as shearing, chip removing, and other separating processes.
	37.05 Perform materials conditioning practices such as heat treating, physical conditioning, or through chemical reactions.
	37.06 Combine components through mixing, coating, bonding, and mechanical fastening.
	37.07 Assemble a product or a subassembly of a product.
38.0	Express knowledge of factors that impact manufacturing technology and practices.--The student will be able to:
	38.01 Explain economic factors that impact on manufacturing technology.

CTE Standards and Benchmarks
38.02 Research and identify consumer demands for a manufactured product.
38.03 Identify sources of raw materials and/or standard stock materials needed for a manufactured product.
38.04 Interview, hire, train, or promote an applicant or employee for a simulated mass production manufacturing activity.
38.05 Define the terms "organized labor" and "collective bargaining."
38.06 Prepare a plan for marketing and distributing a manufactured product.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Aerospace Technology and Career Planning
Course Number: 8600052
Course Length: Semester
Teacher Certification: Refer to the <u>Program Structure</u> section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of aerospace technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of aerospace technology on our everyday lives.

CTE Standards and Benchmarks

01.0	Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01	Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.02	Explain how technology is closely linked with creativity, which has resulted in innovation.
01.03	Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
01.04	Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
02.0	Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01	Describe technological systems including input, processes, output, and, at times, feedback.
02.02	Apply systems thinking, involving considering how every part relates to others.
02.03	Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04	Explain how technological systems can be connected to one another.
02.05	Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06	Compare and contrast requirements or parameters placed on the development of a product or system.
02.07	Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08	Describe different technologies that involve different sets of processes.
02.09	Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:	
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:	
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:	
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:	
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:	
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks

08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks

	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
17.0	Demonstrate an understanding of and be able to select and use information and communication technologies.--The student will be able to:	
	17.01	Describe communication systems made up of a source, encoder, transmitter, receiver, decoder, and destination (e.g. phonetic alphabet).
	17.02	Use symbols, measurements, and drawings to promote clear communication by providing a common language to express ideas (e.g. airport symbols and signs).
40.0	Demonstrate an understanding of and be able to select and use aerospace technologies.--The student will be able to:	
	40.01	Describe subsystems of aerospace vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.
	40.02	Employ processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing, communicating, and using conventions that are necessary for the entire transportation system to operate efficiently.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:	
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.

CTE Standards and Benchmarks	
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
39.0	Discuss educational and training requirements as they relate to various aerospace careers.--The student will be able to:
	39.01 Research and identify various aerospace career choices.
	39.02 Discuss individual interests related to a career.
	39.03 List occupations, job requirements, and job opportunities in aerospace technology.
	39.04 List occupational training programs and academic programs at the secondary/postsecondary levels in aerospace technology.
41.0	Demonstrate knowledge of the basic principles of aerostatics and aerodynamics.--The student will be able to:
	41.01 Define terminology associated with aerostatics and aerodynamics.
	41.02 Explain how buoyancy principles affect an object in a fluid.
	41.03 Explain how Bernoulli's Principle applies to an object in flight.
	41.04 Identify and describe basic forces acting on an object in flight.
	41.05 Build an aerostatic vehicle.
	41.06 Build an aerodynamic vehicle.
42.0	Identify and demonstrate knowledge of both liquid and solid propellant rocket propulsion systems.--The student will be able to:
	42.01 Define technical terminology associated with propulsion systems.
	42.02 Identify parts of a solid-propellant rocket engine.
	42.03 Identify parts of a liquid-propellant rocket engine.
	42.04 Discuss the principles of rocket propulsion.
	42.05 Construct a solid- or liquid- propellant model rocket.
43.0	Define and describe the stages and forms of interference in basic satellite systems.--The student will be able to:

CTE Standards and Benchmarks	
	43.01 Describe the basic functions and advantages of a communications satellite.
	43.02 Describe the basic functions and advantages of a weather satellite.
	43.03 Describe the basic functions and advantages of a navigation satellite.
44.0	Become familiar with the basic information provided by a sectional chart.--The student will be able to:
	44.01 Extract and utilize information from an aeronautical chart legend.
	44.02 Identify locations on an aeronautical chart using latitude and longitude
	44.03 Differentiate between statute and nautical miles.
	44.04 Determine a course and distance between two points on an aeronautical chart using a navigational plotter.
45.0	Describe and define different categories of aviation.--The student will be able to:
	45.01 Describe military aviation and be able to identify military aircraft types and missions.
	45.02 Define general aviation (including business and executive) and be able identify general aviation aircraft types.
	45.03 Define air carrier and be able identify air carrier aircraft types.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Transportation Technology and Career Planning**
Course Number: **8600242**
Course Length: **Semester**
Teacher Certification: **Refer to the <u>Program Structure</u> section**

Course Description:

The purpose of this course is to give students an opportunity to explore the area of transportation technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of transportation technology on our everyday lives.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01   Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02   Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03   Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04   Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0   Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01   Describe technological systems including input, processes, output, and, at times, feedback.
02.02   Apply systems thinking, involving considering how every part relates to others.
02.03   Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04   Explain how technological systems can be connected to one another.
02.05   Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06   Compare and contrast requirements or parameters placed on the development of a product or system.
02.07   Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08   Describe different technologies that involve different sets of processes.
02.09   Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:	
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:	
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:	
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:	
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:	
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks	
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks	
	13.03 Identify trends and monitor potential consequences of technological development.
	13.04 Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
16.0	**Demonstrate an understanding of and be able to select and use energy and power technologies.--The student will be able to:**
	16.01 Define energy as the capacity to do work.
	16.02 Explain how energy can be used to do work, using many processes.
	16.03 Define power as the rate at which energy is converted from one form to another or transferred from one place to another, or the rate at which work is done.
	16.04 Describe power systems used to drive and provide propulsion to other technological products and systems.
	16.05 Explain how much of the energy used in our environment is not used efficiently.
18.0	**Demonstrate an understanding of and be able to select and use transportation technologies.--The student will be able to:**
	18.01 Describe how transporting people and goods involve a combination of individuals and vehicles.
	18.02 Describe subsystems of transportation vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.
	18.03 Identify governmental regulations that influence the design and operation of transportation systems.
	18.04 Employ processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing, communicating, and using conventions that are necessary for the entire transportation system to operate efficiently.
21.0	**Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:**
	21.01 Follow classroom/laboratory safety rules and procedures.
	21.02 Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03 Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04 Exercise care and respect for all tools, equipment, and materials.
	21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06 Identify color-coding safety standards.
	21.07 Safely use hand tools and power equipment.
	21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	**Exhibit positive human relations and leadership skills. – The student will be able to:**
	22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02 Work cooperatively with others.

CTE Standards and Benchmarks
23.0   Discuss individual interests and aptitudes as they relate to a career.--The student will be able to:
23.01   Identify individual strengths and weaknesses.
23.02   Discuss individual interests related to a career.
23.03   List occupations, job requirements, and job opportunities in transportation technology.
23.04   List occupational training programs and academic programs at the secondary/postsecondary levels in transportation technology.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.
The student will be able to**:**
24.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0   Develop skills to locate, evaluate, and interpret career information.
26.0   Identify and demonstrate processes for making short and long term goals.
27.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0   Understand the relationship between educational achievement and career choices/postsecondary options.
29.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0   Demonstrate knowledge of technology and its application in career fields/clusters.
46.0   Perform special skills unique to transportation technologies.--The student will be able to:
46.01   Disassemble and reassemble or perform maintenance on a muscle-powered bicycle.
46.02   Disassemble and reassemble or perform maintenance on a pneumatic or hydraulic device.
46.03   Disassemble and reassemble or perform maintenance on an internal combustion engine.
46.04   Disassemble and reassemble or perform maintenance on an electrical motor, generator, or alternator.
46.05   Construct, maintain, or repair a land, water, or air/space vehicle.
47.0   Express knowledge of the industries that deal with transportation technology.--The student will be able to:
47.01   Describe power and energy applications in transportation technology.
47.02   Identify transportation products that have been developed by industries.

CTE Standards and Benchmarks
47.03   List and describe transportation systems produced or used by industries.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Power and Energy Technology and Career Planning
Course Number: 8600252
Course Length: Semester
Teacher Certification: Refer to the Program Structure section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of power and energy technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of power and energy technology on our everyday lives.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0		Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks	
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
16.0	Demonstrate an understanding of and be able to select and use energy and power technologies.--The student will be able to:	
	16.01	Define energy as the capacity to do work.
	16.02	Explain how energy can be used to do work, using many processes.
	16.03	Define power as the rate at which energy is converted from one form to another or transferred from one place to another, or the rate at which work is done.
	16.04	Describe power systems used to drive and provide propulsion to other technological products and systems.
	16.05	Explain how much of the energy used in our environment is not used efficiently.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:	
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:	
	23.01	Identify individual strengths and weaknesses.
	23.02	Discuss individual interests related to a career.
	23.03	List occupations, job requirements, and employment opportunities in power energy technology.
	23.04	List occupational training programs and academic programs available at the secondary and postsecondary levels in power and energy technologies.

CTE Standards and Benchmarks

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
48.0	Perform special skills unique to power and energy technologies.--The student will be able to:
	48.01 Disassemble and reassemble or perform maintenance on a human-powered device.
	48.02 Disassemble and reassemble or perform maintenance on a pneumatic or hydraulic device.
	48.03 Disassemble and reassemble or perform maintenance on an internal combustion engine.
	48.04 Disassemble and reassemble or perform maintenance on an electrical motor, generator, or alternator.
	48.05 Construct a water-powered, wind-powered, steam-powered, thermal-powered, or solar-powered device.
49.0	Express knowledge of the industries that deal with power and energy technology.--The student will be able to:
	49.01 Identify the technologies that supply or control energy sources.
	49.02 Identify technologies that produce power systems.
	49.03 Describe power and energy applications in everyday life.
	49.04 List energy systems produced or used by industries.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Engineering Technology and Career Planning
Course Number: 8600062
Course Length: Semester
Teacher Certification: Refer to the Program Structure section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of engineering technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of engineering technology on our everyday lives.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks	
	02.10 Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01 Modify the way technological systems interact with one another.
	03.02 Apply a product, system, or environment developed for one setting in another setting.
	03.03 Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01 Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02 Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03 Identify ethical issues associated with the development and use of technology.
	04.04 Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01 Describe the management of waste produced by technological systems as an important societal issue.
	05.02 Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03 Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01 Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02 Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03 Understand social and cultural priorities and values that are reflected in technological devices.
	06.04 Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01 Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02 Explain how the specialization of function has been at the heart of many technological improvements.
	07.03 Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04 Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks

08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks
	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
	23.01	Identify individual strengths and weaknesses.
	23.02	Discuss individual interests related to a career.
	23.03	List occupations, job requirements, and job opportunities in engineering technology
	23.04	List academic and career programs at the secondary levels in engineering technology.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.

CTE Standards and Benchmarks	
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
50.0	Demonstrate skill in technical sketching and drawing as it relates to engineering design.--The student will be able to:
	50.01 Explain the concepts of technical sketching and drawing.
	50.02 Create an orthographic sketch or drawing with appropriate layout and dimensions.
	50.03 Create an isometric sketch or drawing.
51.0	Demonstrate foundational knowledge and skills associated with the design of engineering systems (e.g. mechanical, fluid, electrical systems).--The student will be able to:
	51.01 Measure and calculate dimensions of parts using metric and customary systems.
	51.02 Identify simple machines.
	51.03 Explain mechanical advantage.
	51.04 Define scientific quantities that are used in engineering designs (e.g. mass, weight, force, voltage, current, resistance).
	51.05 Read and use system schematics (e.g. electrical and hydraulic circuits).
	51.06 Assemble, operate, and identify the parts of mechanical and electrical systems.
52.0	Demonstrate understanding and use of measurement tools and systems.--The student will be able to:
	52.01 Take and record both U.S customary and SI systems of measurement.
	52.02 Convert measurements using both U.S customary and SI systems of measurement.
53.0	Demonstrate an understanding of the engineering process.--The student will be able to:
	53.01 Define terminology associated with engineering products and systems.
	53.02 Describe the experimental method as it is applied to design.
	53.03 Create a model of a design solution to an engineering problem.
	53.04 Sketch a graphical or visual solution to an engineering problem.
	53.05 Present a report on an engineering design problem, concept or issue.

CTE Standards and Benchmarks	
54.0	Demonstrate foundational knowledge and skills associated with common computer peripherals and computer functions.--The student will be able to:
54.01	Identify and describe the various internal and external components of a computer and their functions (e.g., power supply, hard drive, RAM, mother board, I/O cards/ports, cabling, etc.).
54.02	Identify and describe various computer input devices (e.g., USB, firewall, parallel and serial, Ethernet, printers, camera).
55.0	Demonstrate an understanding of Internet safety and ethics.--The student will be able to:
55.01	Differentiate between viruses and malware, the impact on personal privacy and computer operation, and ways to avoid infection.
55.02	Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.
55.03	Adhere to Acceptable Use Policies when accessing the Internet.
56.0	Develop fundamental business productivity software skills.--The students will be able to:
56.01	Use appropriate functions in a word processing program. (e.g. format text, insert tables, create bulleted lists)
56.02	Describe a spreadsheet and the ways in which it may be used.
56.03	Describe presentation software, the ways it may be used, and appropriate presentation delivery skills.
56.04	Use appropriate functions in a presentation software program. (e.g. insert images, duplicate slides, format text)
57.0	Successfully work as a member of a team.--The student will be able to:
57.01	Accept responsibility for specific tasks in a given situation.
57.02	Maintain a positive relationship with other team members.
57.03	Document progress, and provide feedback on work accomplished in a timely manner.
57.04	Complete assigned tasks in a timely and professional manner.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Robotics Technology and Career Planning
Course Number: 8600072
Course Length: Semester
Teacher Certification: Refer to the <u>Program Structure</u> section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of robotics technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of robotics technology on our everyday lives.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0		Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks
08.0 Demonstrate an understanding of the attributes of design.--The student will be able to:
08.01 Use design as a creative planning process that leads to useful products and systems.
08.02 Explain why there is no perfect design.
08.03 Evaluate criteria and constraints that are requirements for a design.
09.0 Demonstrate an understanding of engineering design.--The student will be able to:
09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0 Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
10.03 Identify technological problems that are best solved through experimentation.
11.0 Demonstrate the abilities to apply the design process.--The student will be able to:
11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
11.02 Specify criteria and constraints for the design.
11.03 Make two-dimensional and three-dimensional representations of the designed solution.
11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
11.05 Make a product or system and document the solution.
12.0 Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
12.03 Use computers and calculators in various applications.
12.04 Operate and maintain systems in order to achieve a given purpose.
13.0 Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
13.01 Design and use instruments to gather data.
13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks
13.03 Identify trends and monitor potential consequences of technological development.
13.04 Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0 Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
21.01 Follow classroom/laboratory safety rules and procedures.
21.02 Demonstrate good housekeeping at workstations within a classroom/laboratory.
21.03 Conduct classroom/laboratory activities and equipment operations in a safe manner.
21.04 Exercise care and respect for all tools, equipment, and materials.
21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
21.06 Identify color-coding safety standards.
21.07 Safely use hand tools and power equipment.
21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0 Exhibit positive human relations and leadership skills.--The student will be able to:
22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
22.02 Work cooperatively with others.
23.0 Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
23.01 Identify individual strengths and weaknesses.
23.02 Discuss individual interests related to a career.
23.03 List occupations, job requirements, and job opportunities in robotics technology
23.04 List academic and career programs at the secondary levels in robotics technology.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0 Develop skills to locate, evaluate, and interpret career information.
26.0 Identify and demonstrate processes for making short and long term goals.
27.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of

CTE Standards and Benchmarks
entreprenuership.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
58.0	Demonstrate an understanding of robotics, its history, applications, and evolution.--The student will be able to:
	58.01 Explore robotics history through research of the industry.
	58.02 Describe various applications of automation and robotics.
	58.03 Describe emerging technologies and their implications on the field of robotics.
59.0	Demonstrate an understanding of basic programming concepts.--The student will be able to:
	59.01 Apply the engineering design process to the creation of a program
	59.02 Discuss the use of algorithms
	59.03 Demonstrate the use of flowcharting in documenting an algorithm
	59.04 Demonstrate the use of pseudocode in documenting an algorithm
	59.05 Explain the function of conditional execution (eg if, if/else) and their uses
	59.06 Explain iterative programming structures (e.g., while, do/while) and their uses.
	59.07 Demonstrate the use of testing & debugging in the problem solving process
	59.08 Create functional program that satisfies prescribed criteria
60.0	Identify the basic subsystems on a robotic system.--The student will be able to:
	60.01 Define drivetrain, manipulator, and chassis
	60.02 Understand the difference between Ackermann and skid steering
	60.03 Identify the difference between Motors and servos
	60.04 Calculate simple gear ratios and their relationship with torque vs speed
	60.05 Assess the advantages and disadvantages of wheels vs tank treads
	60.06 Analyze the characteristics of a sound chassis design
61.0	Describe the role of sensors in the field of robotics.--The student will be able to:

CTE Standards and Benchmarks	
	61.01 Define sensor.
	61.02 Describe the basic operation common to all sensors.
	61.03 Describe the types of sensors and ways in which they can be categorized.
	61.04 Investigate the types of manipulators used in a robotic system.
62.0	Build, program, and configure a robot to perform predefined tasks.--The student will be able to:
	62.01 Design a robot.
	62.02 Create programs as required using robotic software that will allow the robot to perform a set of tasks.
	62.03 Create a flow chart that visually describes a basic robotic task.
	62.04 Configure subsystems to operate the robot.
	62.05 Create a portfolio including drawings and specifications, describing the robot, the tasks and rationale, and the results.
63.0	Solve problems using critical thinking skills, creativity and innovation.--The student will be able to:
	63.01 Employ critical thinking skills independently and in teams to solve problems and make decisions.
	63.02 Employ critical thinking and interpersonal skills to resolve conflicts.
	63.03 Identify and document workplace performance goals and monitor progress toward those goals.
	63.04 Conduct technical research to gather information necessary for decision-making.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Technical Design Technology and Career Planning
Course Number: 8600082
Course Length: Semester
Teacher Certification: Refer to the **Program Structure** section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of technical design technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of technical design technology on our everyday lives.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01 Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02 Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03 Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04 Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0 Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01 Describe technological systems including input, processes, output, and, at times, feedback.
02.02 Apply systems thinking, involving considering how every part relates to others.
02.03 Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04 Explain how technological systems can be connected to one another.
02.05 Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06 Compare and contrast requirements or parameters placed on the development of a product or system.
02.07 Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08 Describe different technologies that involve different sets of processes.
02.09 Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks	
	02.10 Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01 Modify the way technological systems interact with one another.
	03.02 Apply a product, system, or environment developed for one setting in another setting.
	03.03 Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01 Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02 Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03 Identify ethical issues associated with the development and use of technology.
	04.04 Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01 Describe the management of waste produced by technological systems as an important societal issue.
	05.02 Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03 Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01 Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02 Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03 Understand social and cultural priorities and values that are reflected in technological devices.
	06.04 Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01 Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02 Explain how the specialization of function has been at the heart of many technological improvements.
	07.03 Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04 Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks		
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:	
	08.01	Use design as a creative planning process that leads to useful products and systems.
	08.02	Explain why there is no perfect design.
	08.03	Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:	
	09.01	Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02	Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:	
	10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02	Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03	Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:	
	11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02	Specify criteria and constraints for the design.
	11.03	Make two-dimensional and three-dimensional representations of the designed solution.
	11.04	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05	Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:	
	12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03	Use computers and calculators in various applications.
	12.04	Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:	
	13.01	Design and use instruments to gather data.
	13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks

	13.03	Identify trends and monitor potential consequences of technological development.
	13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:	
	21.01	Follow classroom/laboratory safety rules and procedures.
	21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
	21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
	21.04	Exercise care and respect for all tools, equipment, and materials.
	21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06	Identify color-coding safety standards.
	21.07	Safely use hand tools and power equipment.
	21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:	
	22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.The student will be able to:	
	23.01	Identify individual strengths and weaknesses.
	23.02	Discuss individual interests related to a career.
	23.03	List occupations, job requirements, and job opportunities in technical design technology
	23.04	List academic and career programs at the secondary levels in technical design technology.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of

CTE Standards and Benchmarks	
	entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
64.0	Demonstrate technical skills and applications common to all types of drafting.--The student will be able to:
	64.01 Apply lettering techniques.
	64.02 Make freehand sketches.
	64.03 Use drafting symbols and alphabet of lines in accordance with technical standards and practices.
	64.04 Apply measuring techniques using decimals and fractions.
	64.05 Apply industry standard dimensioning techniques.
	64.06 Apply geometric construction techniques.
	64.07 Interpret information from drawings, prints, and sketches.
	64.08 Apply coordinate systems.
65.0	Demonstrate technical knowledge and skills for making basic orthographic drawings.--The student will be able to:
	65.01 Describe orthographic projection.
	65.02 Identify the six principal views of an object.
	65.03 Produce a three-view orthographic drawing using traditional drafting methods.
66.0	Demonstrate technical knowledge and skills for making pictorial drawings.--The student will be able to:
	66.01 Explain methods of pictorial drawing.
	66.02 Produce an isometric drawing using traditional drafting methods.
	66.03 Produce an oblique drawing using traditional drafting methods.
	66.04 Produce a perspective drawing using traditional drafting methods.
67.0	Demonstrate technical knowledge and skills for making a three-dimensional study model.--The student will be able to:
	67.01 Produce a conceptual sketch.
	67.02 Produce a three-dimensioned model.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Electronics Technology and Career Planning**
Course Number: **8600095**
Course Length: **Semester**
Teacher Certification: **Refer to the <u>Program Structure</u> section**

Course Description:

The purpose of this course is to give students an opportunity to explore the area of electronics technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of electronics technology on our everyday lives.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01   Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02   Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03   Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04   Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0   Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01   Describe technological systems including input, processes, output, and, at times, feedback.
02.02   Apply systems thinking, involving considering how every part relates to others.
02.03   Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04   Explain how technological systems can be connected to one another.
02.05   Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06   Compare and contrast requirements or parameters placed on the development of a product or system.
02.07   Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08   Describe different technologies that involve different sets of processes.
02.09   Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.
02.10   Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.

CTE Standards and Benchmarks	
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01 Modify the way technological systems interact with one another.
	03.02 Apply a product, system, or environment developed for one setting in another setting.
	03.03 Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01 Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02 Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03 Identify ethical issues associated with the development and use of technology.
	04.04 Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01 Describe the management of waste produced by technological systems as an important societal issue.
	05.02 Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03 Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01 Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02 Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03 Understand social and cultural priorities and values that are reflected in technological devices.
	06.04 Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01 Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02 Explain how the specialization of function has been at the heart of many technological improvements.
	07.03 Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04 Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:

CTE Standards and Benchmarks

	08.01	Use design as a creative planning process that leads to useful products and systems.
	08.02	Explain why there is no perfect design.
	08.03	Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:	
	09.01	Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02	Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03	Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:	
	10.01	Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02	Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03	Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:	
	11.01	Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02	Specify criteria and constraints for the design.
	11.03	Make two-dimensional and three-dimensional representations of the designed solution.
	11.04	Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05	Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:	
	12.01	Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03	Use computers and calculators in various applications.
	12.04	Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:	
	13.01	Design and use instruments to gather data.
	13.02	Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
	13.03	Identify trends and monitor potential consequences of technological development.

CTE Standards and Benchmarks

	13.04 Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
	21.01 Follow laboratory safety rules and procedures.
	21.02 Demonstrate good housekeeping at workstations within a total laboratory.
	21.03 Conduct laboratory activities and equipment operations in a safe manner.
	21.04 Identify tools, machines, materials and equipment and describe their functions.
	21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
	21.06 Demonstrate safe and correct use of tools, machines, and equipment.
	21.07 Identify color-coding safety standards.
	21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
	21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
	21.10 Identify the factors that determine the severity of electrical shock.
	21.11 Identify lifesaving safety equipment such as ground fault circuit interrupters (GFCI), proper grounding.
	21.12 Identify protective equipment such as circuit breakers, fuses, surge protection, and uninterruptable power supplies.
	21.13 Compare the characteristics and applications of different types of batteries. (Lithium, NiCad, Alkaline, etc.)
	21.14 Explain ways in which batteries are rated and texted.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
	22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
	22.02 Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
	23.01 Identify individual strengths and weaknesses.
	23.02 Discuss individual interests related to a career.
	23.03 List occupations, job requirements, and job opportunities in electronics technology
	23.04 List academic and career programs at the secondary levels in electronics technology.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

CTE Standards and Benchmarks

The student will be able to:

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
68.0	Demonstrate an understanding of the nature of electricity.--The student will be able to:
	68.01 Identify parts of an atom.
	68.02 Describe how the interaction of charged particles in the atom creates electron flow.
	68.03 Evaluate whether a material is a conductor, insulator, or semiconductor based upon its number of valance electrons and its position on the periodic table.
	68.04 Explain the difference between current, voltage and resistance.
	68.05 Describe the properties of a magnet including polarity.
	68.06 Identify the primary parts of a DC motor and demonstrate how it functions.
	68.07 Identify the primary parts of a generator and demonstrate how it functions.
	68.08 Compare and contrast the characteristics of a basic motor and generator.
	68.09 Describe the composition of elements, mixtures, and compounds according to the electron theory.
	68.10 Diagram and show the relationship between electrons, protons, and neutrons.
	68.11 State the law of electrical charges.
	68.12 Define electrical quantities (voltage, current, resistance, etc.).
	68.13 Define units of measure including milli, micro, mega, and kilo.
69.0	Explore the basics of electric circuits.--The student will be able to:

CTE Standards and Benchmarks
69.01   Identify the characteristics of series, parallel, and combination electrical circuits.
69.02   Sketch circuit diagrams using standardized schematic symbols.
69.03   Construct physical electrical circuits based upon circuit diagrams.
69.04   Measure voltage, current, and resistance using a multimeter.
69.05   Mathematically calculate voltage, current, and resistance using Ohm's law.
69.06   Integrate DC sources, lamps, switches, diodes, light emitting diodes, resistors, and capacitors into electrical circuits to achieve specific functions.
69.07   Determine the value of a fixed resistor based upon the color codes on those resistors.
70.0   Investigate digital signals and basic digital components.--The student will be able to:
70.01   Identify the relationship between the binary number system and the decimal number system and convert binary numbers to decimal.
70.02   Describe the functions of NOT, AND, OR, NAND, NOR, and XOR gates.
70.03   Create truth tables for logic scenarios and match those gates to truth tables.
70.04   Create a digital wave form and graph it for a binary sequence.
70.05   Determine the logic, sensors, gates, outputs, and other components needed to emulate existing electronic devices that utilize logic.
71.0   Demonstrate and apply proper use of electronic equipment.--The student will be able to:
71.01   Use a digital or analog volt-ohm meter (VOM) to obtain accurate measurements.
71.02   Apply safety rules in the use of electronic instruments and demonstrate proper care and maintenance for the equipment during storage and use.
71.03   Use voltmeters, ammeters, and ohmmeters to obtain accurate measurements.
71.04   Set up and use an oscilloscope to observe waveforms and to determine the voltage of the signal presented.
71.05   Use signal generators to produce waveforms of selected frequencies and shapes.
71.06   Use testers to determine the condition of electronic components.
72.0   Demonstrate proper electronic assembly methods.--The student will be able to:
72.01   Exhibit safe soldering techniques.
72.02   Identify proper soldering practices.
72.03   Demonstrate proper soldering applications.
72.04   Identify common electrical and electronics hand tools.
72.05   Demonstrate electronic component assembly.

CTE Standards and Benchmarks	
72.06	Apply electrical tape to a spliced and soldered wire connection.
72.07	Solder and de-solder components and wires.
72.08	Describe the two methods of making a printed circuit board.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Maritime Technology and Career Planning
Course Number: 8600096
Course Length: Semester
Teacher Certification: Refer to the <u>Program Structure</u> section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of maritime technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of maritime technology on our everyday lives.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01   Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02   Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03   Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04   Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0   Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01   Describe technological systems including input, processes, output, and, at times, feedback.
02.02   Apply systems thinking, involving considering how every part relates to others.
02.03   Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04   Explain how technological systems can be connected to one another.
02.05   Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06   Compare and contrast requirements or parameters placed on the development of a product or system.
02.07   Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08   Describe different technologies that involve different sets of processes.
02.09   Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0		Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks
08.0   Demonstrate an understanding of the attributes of design.--The student will be able to:
08.01   Use design as a creative planning process that leads to useful products and systems.
08.02   Explain why there is no perfect design.
08.03   Evaluate criteria and constraints that are requirements for a design.
09.0   Demonstrate an understanding of engineering design.--The student will be able to:
09.01   Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
09.02   Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
09.03   Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0   Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
10.01   Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
10.02   Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
10.03   Identify technological problems that are best solved through experimentation.
11.0   Demonstrate the abilities to apply the design process.--The student will be able to:
11.01   Apply a design process to solve problems in and beyond the laboratory-classroom.
11.02   Specify criteria and constraints for the design.
11.03   Make two-dimensional and three-dimensional representations of the designed solution.
11.04   Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
11.05   Make a product or system and document the solution.
12.0   Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
12.01   Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
12.02   Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
12.03   Use computers and calculators in various applications.
12.04   Operate and maintain systems in order to achieve a given purpose.
13.0   Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
13.01   Design and use instruments to gather data.
13.02   Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks	
13.03	Identify trends and monitor potential consequences of technological development.
13.04	Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
21.01	Follow classroom/laboratory safety rules and procedures.
21.02	Demonstrate good housekeeping at workstations within a classroom/laboratory.
21.03	Conduct classroom/laboratory activities and equipment operations in a safe manner.
21.04	Exercise care and respect for all tools, equipment, and materials.
21.05	Select appropriate tools, machines, and equipment to accomplish a given task.
21.06	Identify color-coding safety standards.
21.07	Safely use hand tools and power equipment.
21.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
21.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0	Exhibit positive human relations and leadership skills.--The student will be able to:
22.01	Perform roles in a student personnel system or in a career and technical student organization (CTSO).
22.02	Work cooperatively with others.
23.0	Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
23.01	Identify individual strengths and weaknesses.
23.02	Discuss individual interests related to a career.
23.03	List occupations, job requirements, and job opportunities in maritime technology
23.04	List academic and career programs at the secondary levels in maritime technology.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

24.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0	Develop skills to locate, evaluate, and interpret career information.
26.0	Identify and demonstrate processes for making short and long term goals.
27.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of

CTE Standards and Benchmarks	
	entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
73.0	Demonstrate knowledge relating to the historical origins of the maritime industry from vessel development, cultural, and trade perspectives.--The student will be able to:
	73.01 Identify different types of ships and their origins.
	73.02 Create a timeline showing significant milestones in maritime history.
	73.03 Describe the significance of the Phoenicians, Vikings, and Asians on maritime cultures and traditions.
	73.04 Identify changes in sea going trade over the centuries.
	73.05 Describe the effect of trade on colonialism and the developing world.
74.0	Demonstrate proficiency in understanding the various career paths in the maritime industry.--The student will be able to:
	74.01 Identify important factors to choosing a career.
	74.02 Explain the importance of planning for a career.
	74.03 Evaluate the impact of education on long term career success.
	74.04 Research and investigate career paths in the maritime industry.
	74.05 Describe the skills and personal qualities needed for maritime careers.
	74.06 Describe the everyday life of people working in maritime careers.
	74.07 Describe the future growth trends of maritime careers.
	74.08 Create a personal maritime career path based on interest.
75.0	Demonstrate an understanding of required skills sets by mariners including, safety training, regulations, and leadership.--The student will be able to:
	75.01 Create a timeline explaining the evolution of the U.S. Coast Guard.
	75.02 Explain the main functions of the U.S. Coast Guard.
	75.03 Describe the U.S. Coast Guard and its place in the U.S. military.
	75.04 Describe the organization and leadership hierarchy on a vessel.

	75.05	Explain Master's Level of Authority.
	75.06	Describe the importance of leadership and chain-of-command on a vessel.
	75.07	Use seamanship skills to tie knots, identify equipment, and practice safe work methods.
	75.08	Describe the process of watch keeping, navigation, boat handling, anchoring, and mooring.
	75.09	Use seamanship terminology.
76.0	Demonstrate proficiency in using engineering methods for ship construction and design.--The student will be able to:	
	76.01	Identify and describe various types of marine engines.
	76.02	Explain the phenomenon of wind generation.
	76.03	Explain how wind has been used to propel ships.
	76.04	Describe the process and instrumentation for measuring and calculating wind power.
	76.05	Describe the principles of buoyancy.
	76.06	Explain the relationship between weight, volume, and density.
	76.07	Explain Archimedes Principal.
	76.08	Explain how a ship made of steel is able to float.
	76.09	Construct a model vessel from material with a density greater than 1 and ensure it floats.
	76.10	Use the engineering process to create solutions for a maritime related problem.
	76.11	Work in teams to using the engineering process to create solutions for a maritime problem.
77.0	Identify and explain various vessels and their and their use.--The student will be able to:	
	77.01	Identify various types of ships.
	77.02	Explain specific reasons for different types of ships.
	77.03	Describe different types of cargo vessels and cargo types.
	77.04	Describe different types of passenger vessels and their purpose
78.0	Evaluate the environmental impact of the maritime industry.--The student will be able to:	
	78.01	Explain the role of maritime in protection of the environment.
	78.02	Describe the environmental regulations on the maritime industry.
79.0	Examine the potential and use of marine resources.--The student will be able to:	
	79.01	Identify various energy sources related to the marine environment.

		CTE Standards and Benchmarks
	79.02	Describe how solar energy can be used to provide power for ships.
	79.03	Provide three examples of solar power use in the maritime industry.
	79.04	Explain how power could be generated from currents.
	79.05	Describe how energy can be created from tidal movements and what technology is used to perform this function.
80.0		Demonstrate an understanding of oceanography concepts.--The student will be able to:
	80.01	Explain oceanography's role as a marine science disciple and its areas of investigation.
	80.02	Explain how ocean currents form and their role in distribution of heat.
	80.03	Describe the various types of tides and why they are monitored throughout the maritime industry.
	80.04	Evaluate the difference between tides, currents, and waves.
	80.05	Compare the El Nino and la Nina events and their impact on weather.
	80.06	Identify various ways wave energy is created and how it moves through the ocean.
	80.07	Apply mathematics to waves to solve for wave height and wave length.
	80.08	Explain the Coriolis Effect.
	80.09	Describe the theory of global warming and how humans have contributed to associated maritime events.
81.0		Demonstrate an understanding of the fundamentals of marine biology.--The student will be able to:
	81.01	Describe how freshwater collects on the earth's surface and its relation to the oceans.
	81.02	Explain the ecological importance of mangroves in water filtration and runoff.
	81.03	Explain the role of mangroves in high energy events and environmental concerns for their removal.
	81.04	Identify and explain the importance of estuaries.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Logistics and Supply Chain Technology and Career Planning**
Course Number: **8600097**
Course Length: **Semester**
Teacher Certification: **Refer to the <u>Program Structure</u> section**

Course Description:

The purpose of this course is to give students an opportunity to explore the area of logistics and supply chain technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of logistics and supply chain technology on our everyday lives.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01   Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02   Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03   Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04   Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0   Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01   Describe technological systems including input, processes, output, and, at times, feedback.
02.02   Apply systems thinking, involving considering how every part relates to others.
02.03   Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04   Explain how technological systems can be connected to one another.
02.05   Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06   Compare and contrast requirements or parameters placed on the development of a product or system.
02.07   Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08   Describe different technologies that involve different sets of processes.
02.09   Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks	
02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
03.01	Modify the way technological systems interact with one another.
03.02	Apply a product, system, or environment developed for one setting in another setting.
03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
04.03	Identify ethical issues associated with the development and use of technology.
04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0	Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
05.01	Describe the management of waste produced by technological systems as an important societal issue.
05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0	Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
06.03	Understand social and cultural priorities and values that are reflected in technological devices.
06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0	Demonstrate an understanding of the influence of technology on history.--The student will be able to:
07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
07.02	Explain how the specialization of function has been at the heart of many technological improvements.
07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks	
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks
13.03   Identify trends and monitor potential consequences of technological development.
13.04   Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0   Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
21.01   Follow classroom/laboratory safety rules and procedures.
21.02   Demonstrate good housekeeping at workstations within a classroom/laboratory.
21.03   Conduct classroom/laboratory activities and equipment operations in a safe manner.
21.04   Exercise care and respect for all tools, equipment, and materials.
21.05   Select appropriate tools, machines, and equipment to accomplish a given task.
21.06   Identify color-coding safety standards.
21.07   Safely use hand tools and power equipment.
21.08   Explain fire prevention and safety precautions and practices for extinguishing fires.
21.09   Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0   Exhibit positive human relations and leadership skills.--The student will be able to:
22.01   Perform roles in a student personnel system or in a career and technical student organization (CTSO).
22.02   Work cooperatively with others.
23.0   Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
23.01   Identify individual strengths and weaknesses.
23.02   Discuss individual interests related to a career.
23.03   List occupations, job requirements, and job opportunities in logistics and supply chain technology
23.04   List academic and career programs at the secondary levels in logistics and supply chain technology.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes. The student will be able to**:**
24.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0   Develop skills to locate, evaluate, and interpret career information.
26.0   Identify and demonstrate processes for making short and long term goals.
27.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of

CTE Standards and Benchmarks

	entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
82.0	Demonstrate an understanding of global logistics and supply chain.--The student will be able to:
82.01	Discuss the history, career fields, and benefits of the global supply chain industry.
82.02	Describe principal elements of the logistics environment and logistics systems.
82.03	Explore career pathways within global logistics and supply chain.
82.04	Explain ways in which handling of product throughout supply chain logistics affects company's viability and profitability.
82.05	Define basic principles of just-in-time purchasing and inventory control.
82.06	Identify major security requirements applicable to the logistics environment.
82.07	Cite examples of environmental and financial impacts of logistics activities.
83.0	Demonstrate an understanding of transportation systems.--The student will be able to:
83.01	Identify various transportation modes.
83.02	Describe and contrast the different modes of transportation and their advantages/disadvantages.
83.03	List the main considerations in determining the best mode.
83.04	Describe and assess global freight transportation systems.
84.0	Demonstrate professional communication skills.--The student will be able to:
84.01	Identify effective communications to both internal and external customers.
84.02	Identify ways to elicit clear statements of customer requirements and specifications.
84.03	Demonstrate an understanding of teamwork and good professional workplace behavior to solve problems.
84.04	List characteristics of an effective team member.
84.05	Explain ways to set team goals.
84.06	Identify use of team environment to solve problems and resolve conflicts.
84.07	Describe typical requirements for good workplace conduct.

CTE Standards and Benchmarks
85.0   Demonstrate customer service skills.--The student will be able to:
85.01   Exhibit acceptable workplace dress or attire.
85.02   Exhibit punctuality, initiative, courtesy, loyalty, and honesty.
85.03   Use a personality inventory for personal improvement.
85.04   Exhibit the ability to get along with others.
85.05   Discuss the importance of human relations.
85.06   Develop and demonstrate the unique human relations skills needed for successful entry and progress in the customer service occupations or marketing occupations selected as a career objective.
85.07   Differentiate between an acceptable and an unacceptable code of business ethical conduct.
86.0   Demonstrate an understanding of warehouse operations.--The student will be able to:
86.01   Identify and discuss the characteristics, purpose and importance of warehouse operations and supply chain management.
86.02   Define material handling logistics as it applies to the warehousing function.
86.03   Define "logical" in terms of the term logistics.
86.04   Define movement in a warehouse and identify the various locations within the warehouse where planned efficient movement of materials takes place.
86.05   Explain channels of distribution.
86.06   Discuss safety regulatory requirements and procedures.
86.07   Identify various types of equipment available to enhance the efficient movement of materials within a warehouse.
86.08   Identify the various types of loading docks and cross docking.
86.09   Define the term "peaks and valleys" as it applies to warehouse activity.
86.10   Explain the importance of staging and JIT.
86.11   Identify the primary types of hand-operated pieces of warehouse equipment.
86.12   Explain the concept of "balancing" as it applies to counterbalanced lift trucks.
86.13   Identify warehouse documents (e.g., pick tickets, special orders, inventory forms).
87.0   Demonstrate an understanding of storage and control operations.--The student will be able to:
87.01   Explain the concepts involved in determining the best method for storage and the equipment needed to facilitate a cost effective and efficient warehouse.
87.02   Identify the factors that are involved with the calculating and estimating of the storage area needed for retention of materials in a warehouse.
87.03   Define the following storage related terms: Size, Volume, Density, Pallet, and Case.

CTE Standards and Benchmarks	
87.04	Define the terms packaging, SKU, stacking frame, term "Logistics Execution Systems" (LES), signage and signposting, "real time" and barcoding.
87.05	Explain how the volume of materials, space usage, and control affect the design of storage space in a warehouse design.
87.06	Explain inventories and their importance.
87.07	Identify and analyze various warehouse storage systems.
87.08	Identify the basic configuration for pallet rack.
87.09	Identify the various types of technologies developed over the years to keep track of goods within the warehouse.
87.10	Define the components of an LES.
87.11	Define radio frequency identification (RFID).
87.12	Explain the importance of automation in warehousing.
87.13	Identify the value of emerging technologies related to warehouse operations.

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Green Construction and Architecture Technology and Career Planning
Course Number: 8600098
Course Length: Semester
Teacher Certification: Refer to the <u>Program Structure</u> section

Course Description:

The purpose of this course is to give students an opportunity to explore the area of green construction and architecture technology and its associated careers. Students will be given the opportunity to solve technological problems using a variety of tools, materials, processes and systems while gaining an understanding of the effects of green construction and architecture technology on our everyday lives.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the characteristics and scope of technology.--The student will be able to:
01.01	Develop new products and systems to solve problems or to help do things that could not be done without the help of technology.
01.02	Describe the development of technology as a human activity that is the result of individual or collective needs and the ability to be creative.
01.03	Explain how technology is closely linked with creativity, which has resulted in innovation.
01.04	Demonstrate how corporations can often create demand for a product by bringing it onto the market and advertising it.
02.0	Demonstrate an understanding of the core concepts of technology.--The student will be able to:
02.01	Describe technological systems including input, processes, output, and, at times, feedback.
02.02	Apply systems thinking, involving considering how every part relates to others.
02.03	Identify control systems having no feedback path and requiring human intervention, and control systems using feedback.
02.04	Explain how technological systems can be connected to one another.
02.05	Repair malfunctions of any part of a system that may affect the function and quality of the system.
02.06	Compare and contrast requirements or parameters placed on the development of a product or system.
02.07	Compare and contrast trade-offs as a decision process recognizing the need for careful compromises among competing factors.
02.08	Describe different technologies that involve different sets of processes.
02.09	Perform basic maintenance as the process of inspecting and servicing a product or system on a regular basis in order for it to continue functioning properly, to extend its life, or to upgrade its capability.

CTE Standards and Benchmarks

	02.10	Utilize controls and mechanisms or particular steps that people perform using information about the system that causes systems to change.
03.0		Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.--The student will be able to:
	03.01	Modify the way technological systems interact with one another.
	03.02	Apply a product, system, or environment developed for one setting in another setting.
	03.03	Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
04.0		Demonstrate an understanding of the cultural, social, economic, and political effects of technology.--The student will be able to:
	04.01	Identify the ways that use of technology affects humans, including their safety, comfort, choices, and attitudes about technology's development and use.
	04.02	Explain that technology, by itself, is neither good nor bad; but decisions about the use of products and systems can result in desirable or undesirable consequences.
	04.03	Identify ethical issues associated with the development and use of technology.
	04.04	Identify the economic, political, and cultural issues that are influenced by the development and use of technology.
05.0		Demonstrate an understanding of the effects of technology on the environment.--The student will be able to:
	05.01	Describe the management of waste produced by technological systems as an important societal issue.
	05.02	Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
	05.03	Make decisions about the development and use of technologies that put environmental and economic concerns in direct competition with one another.
06.0		Demonstrate an understanding of the role of society in the development and use of technology.--The student will be able to:
	06.01	Describe the development of technologies that has resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
	06.02	Describe changes in society and the creation of new needs and wants caused by the use of inventions and innovations.
	06.03	Understand social and cultural priorities and values that are reflected in technological devices.
	06.04	Explain how meeting societal expectations is the driving force behind the acceptance and use of products and systems.
07.0		Demonstrate an understanding of the influence of technology on history.--The student will be able to:
	07.01	Identify inventions and innovations that have evolved by using slow and methodical processes of tests and refinements.
	07.02	Explain how the specialization of function has been at the heart of many technological improvements.
	07.03	Identify the design and construction of structures for service or convenience evolving from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
	07.04	Investigate how, that in the past, an invention or innovation was not usually developed with the knowledge of science.

CTE Standards and Benchmarks	
08.0	Demonstrate an understanding of the attributes of design.--The student will be able to:
	08.01 Use design as a creative planning process that leads to useful products and systems.
	08.02 Explain why there is no perfect design.
	08.03 Evaluate criteria and constraints that are requirements for a design.
09.0	Demonstrate an understanding of engineering design.--The student will be able to:
	09.01 Utilize the design process involving a set of steps, which can be performed in different sequences and repeated as needed.
	09.02 Employ brainstorming as a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
	09.03 Model, test, evaluate and modify designs to transform ideas into practical solutions.
10.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.--The student will be able to:
	10.01 Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
	10.02 Describe invention as a process of turning ideas and imagination into devices and systems and innovation as the process of modifying an existing product or system to improve it.
	10.03 Identify technological problems that are best solved through experimentation.
11.0	Demonstrate the abilities to apply the design process.--The student will be able to:
	11.01 Apply a design process to solve problems in and beyond the laboratory-classroom.
	11.02 Specify criteria and constraints for the design.
	11.03 Make two-dimensional and three-dimensional representations of the designed solution.
	11.04 Test and evaluate the design in relation to pre-established requirements, such as criteria and constraints, and refine as needed.
	11.05 Make a product or system and document the solution.
12.0	Demonstrate the abilities to use and maintain technological products and systems.--The student will be able to:
	12.01 Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
	12.02 Use tools, materials, and machines safely to diagnose, adjust, and repair systems.
	12.03 Use computers and calculators in various applications.
	12.04 Operate and maintain systems in order to achieve a given purpose.
13.0	Demonstrate the abilities to assess the impact of products and systems.--The student will be able to:
	13.01 Design and use instruments to gather data.
	13.02 Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.

CTE Standards and Benchmarks
13.03 Identify trends and monitor potential consequences of technological development.
13.04 Interpret and evaluate the accuracy of the information obtained and determine if it is useful.
21.0 Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
21.01 Follow classroom/laboratory safety rules and procedures.
21.02 Demonstrate good housekeeping at workstations within a classroom/laboratory.
21.03 Conduct classroom/laboratory activities and equipment operations in a safe manner.
21.04 Exercise care and respect for all tools, equipment, and materials.
21.05 Select appropriate tools, machines, and equipment to accomplish a given task.
21.06 Identify color-coding safety standards.
21.07 Safely use hand tools and power equipment.
21.08 Explain fire prevention and safety precautions and practices for extinguishing fires.
21.09 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
22.0 Exhibit positive human relations and leadership skills.--The student will be able to:
22.01 Perform roles in a student personnel system or in a career and technical student organization (CTSO).
22.02 Work cooperatively with others.
23.0 Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:
23.01 Identify individual strengths and weaknesses.
23.02 Discuss individual interests related to a career.
23.03 List occupations, job requirements, and job opportunities in green construction and architectural technology
23.04 List academic and career programs at the secondary levels in green construction and architectural technology.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.   The student will be able to**:**
24.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
25.0 Develop skills to locate, evaluate, and interpret career information.
26.0 Identify and demonstrate processes for making short and long term goals.
27.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of

	entrepreneurship.
28.0	Understand the relationship between educational achievement and career choices/postsecondary options.
29.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
30.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
31.0	Demonstrate knowledge of technology and its application in career fields/clusters.
88.0	Demonstrate an understanding of the built environment.--The student will be able to:
	88.01 Research the development of construction technology, its impact on the built environment and the impact of growth on the construction industry.
	88.02 Examine and compare the relationship between the built environment and the natural environment.
	88.03 Compare architectural designs and/or models to understand how technical and functional components impact aesthetic qualities.
	88.04 Analyze changes in architectural styles and construction practices over time.
	88.05 Research innovative historical architectural and/or engineering works and examine the significance of their legacy for the future.
89.0	Demonstrate an understanding of the green environment.--The student will be able to:
	89.01 Recognize and analyze the development of the built environment and its impacts on the natural environment such as pollution, deforestation, climate change, health and disease.
	89.02 Describe and give examples of how a green built environment creates growth for the construction industry, and the economy such as health and safety, transportation and natural resources.
	89.03 Examine and compare the relationship between a green built environment and the natural environment.
	89.04 Explain the purpose of the United States Green Building Council (USGBC), the Green Building Certification Institute (GBCI) and Leadership for Energy and Environmental Design (LEED) are and how they create growth for the construction industry and the economy.
	89.05 Research sustainable building design and its relationship between health, energy efficiency and money savings for government, businesses and individuals.
	89.06 Research the effects of building science on construction and energy efficiency.
	89.07 Research renewable fuels and energy.
90.0	Use building laws and codes, style, convenience, cost, climate, and function to select building designs.--The student will be able to:
	90.01 Identify the function and types of building foundations.
	90.02 Identify the subsystems contained in buildings.
	90.03 Summarize energy efficient building materials and processes.

CTE Standards and Benchmarks	
91.0	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.--The student will be able to:
91.01	Apply a systematic process to determine to meet the criteria and constraints of the problem.
91.02	Make two-dimensional and three-dimensional representations of the designed solution
91.03	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
91.04	Apply a design process to solve problems in or beyond the laboratory-classroom.
91.05	Summarize energy efficient building materials and processes.
91.06	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved
92.0	Describe the human impact on the environment and identify ways to minimize environmental impacts.--The student will be able to:
92.01	Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
92.02	Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems.
92.03	Analyze recycling opportunities for building construction and materials.
92.04	Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.
93.0	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions and accurately measure drawing dimensions.--The student will be able to:
93.01	Construct geometric figures including but not limited to triangles, squares, rectangles, and circles.
93.02	Solve real-world and mathematical problems involving area, volume, perimeter, and surface area of two- and three-dimensional objects composed of geometric figures including but not limited to triangles, quadrilaterals, polygons, cubes, and right prisms. Identify the subsystems contained in buildings.
93.03	Solve real-world and mathematical problems involving area, volume, perimeter, and surface area of two- and three-dimensional objects composed of geometric figures including but not limited to triangles, quadrilaterals, polygons, cubes, and right prisms.
93.04	Use a ruler and an architectural scale to measure and create drawings and produce scale drawings a building.

Additional Information

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Health Science Career Pathways**
Course Type: **Orientation/Exploratory**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8709350
CIP Number	148709350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to a broad overview of the Health Science career cluster, including terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8709350	Introduction to Health Science Career Pathways	ANY HEALTH OCCUP G *(See DOE approved list)	Semester

Standards

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

01.0   Demonstrate an understanding of the Therapeutic Services career pathway.
02.0   Demonstrate an understanding of the Diagnostic Services career pathway.
03.0   Demonstrate an understanding of the Health Informatics career pathway.
04.0   Demonstrate an understanding of the Support Services career pathway.
05.0   Demonstrate an understanding of the Biotechnology Research and Development career pathway.
06.0   Apply leadership and communication skills.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Health Science Career Pathways**
Course Number: **8709350**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Health Science career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Therapeutic Services career pathway. -- The student will be able to:
01.01 Define and use proper terminology associated with the Therapeutic Services career pathway.
01.02 Explore a variety of careers in the Therapeutic Services career pathway, including educational requirements and salary expectations, such as EMS; Nursing; Dentistry; Pharmacy; Sports Medicine.
01.03 Identify common characteristics of the careers in the Therapeutic Services pathway.
01.04 Identify skills and equipment used in Therapeutic Service careers.
01.05 Perform lab activities that are relevant to each career that is being explored.
02.0 Demonstrate an understanding of the Diagnostic Services career pathway. -- The student will be able to:
02.01 Define and use proper terminology associated with the Diagnostic Services career pathway.
02.02 Explore a variety of careers in the Diagnostic Services career pathway. Suggested careers to focus on: Medical Laboratory Services; Radiology; Ophthalmology.
02.03 Identify common characteristics of the careers in the Diagnostic Services career pathway.
02.04 Identify skills required to successfully enter any career in the Diagnostic Services career pathway.
02.05 Perform lab activities related to careers being explored for example blood glucose testing, blood typing, and vision testing.
03.0 Demonstrate an understanding of the Health Informatics career pathway. -- The student will be able to:
03.01 Define and use proper terminology associated with the Health Informatics career pathway.

CTE Standards and Benchmarks		
	03.02	Explore a variety of careers in the Health Informatics career pathway.
	03.03	Explore the careers available in the Health Informatics; Medical Coding/Biller; Medical Office Administration
	03.04	Identify common characteristics of the careers in the Health Informatics career pathway.
	03.05	Identify skills required to successfully enter any career in the Health Informatics career pathway.
	03.06	Perform activities related to health informatics careers such as evaluating medical records or bills, office reception and support.
04.0	Demonstrate an understanding of the Support Services career pathway. -- The student will be able to:	
	04.01	Define and use proper terminology associated with the Support Services career pathway.
	04.02	Explore a variety of careers in the Support Services career pathway. Suggested careers: dietary services;; central supply ; social services ; environmental services
	04.03	Identify common characteristics of the careers in the Support Services career pathway.
	04.04	Identify skills required to successfully enter any career in the Support Services career pathway.
	04.05	Perform lab skills related to covered careers such as diet plan design and housekeeping skills.
05.0	Demonstrate an understanding of the Biotechnology Research and Development career pathway. -- The student will be able to:	
	05.01	Define and use proper terminology associated with the Biotechnology Research and Development career pathway.
	05.02	Explore a variety of careers in the Biotechnology Research and Development career pathway. Suggested careers: Biomedical Engineering and Biomedical Research.
	05.03	Identify skills required to successfully enter any career in the Biotechnology Research and Development career pathway.
	05.04	Perform lab skills related to covered career, for example: microbiology labs; investigating antisepsis procedures; DNA extraction lab.
	05.05	Explore the role of research in medical advancements and discoveries that promote wellness for example development of vaccines and discovery of the structure of DNA.
06.0	Apply leadership and communication skills. -- The student will be able to:	
	06.01	Increase awareness of leadership opportunities through professional organizations such as Career Technical Student Organizations (CTSOs).
	06.02	Identify the characteristics of effective leadership.
	06.03	Demonstrate effective communication skills.
	06.04	Demonstrate an understanding of how information technology is used in health care.

Laboratory Activities

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

Florida 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 intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Career and Technical Student Organization (CTSO)

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

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Health Science Career Pathways and Career Planning**
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Health Science**

Secondary – Middle School	
Course Number	8709360
CIP Number	148709360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster.

The content includes but is not limited to a broad overview of the Health Science career cluster, including terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

This program is a planned sequence of instruction consisting of 1 course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8709360	Introduction to Health Science Career Pathways and Career Planning	ANY HEALTH OCCUP G *(See DOE approved list)	Semester

Standards

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

01.0   Demonstrate an understanding of the Therapeutic Services career pathway.
02.0   Demonstrate an understanding of the Diagnostic Services career pathway.
03.0   Demonstrate an understanding of the Health Informatics career pathway.
04.0   Demonstrate an understanding of the Support Services career pathway.
05.0   Demonstrate an understanding of the Biotechnology Research and Development career pathway.
06.0   Apply leadership and communication skills.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

07.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
08.0   Develop skills to locate, evaluate, and interpret career information.
09.0   Identify and demonstrate processes for making short and long term goals.
10.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
11.0   Understand the relationship between educational achievement and career choices/postsecondary options.
12.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
13.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
14.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Health Science Career Pathways and Career Planning**
Course Number: **8709360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Health Science career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Health Science career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Therapeutic Services career pathway. -- The student will be able to:
01.01 Define and use proper terminology associated with the Therapeutic Services career pathway.
01.02 Explore a variety of careers in the Therapeutic Services career pathway, including educational requirements and salary expectations, such as EMS; Nursing; Dentistry; Pharmacy; Sports Medicine.
01.03 Identify common characteristics of the careers in the Therapeutic Services pathway.
01.04 Identify skills and equipment used in Therapeutic Service careers.
01.05 Perform lab activities that are relevant to each career that is being explored.
02.0 Demonstrate an understanding of the Diagnostic Services career pathway. -- The student will be able to:
02.01 Define and use proper terminology associated with the Diagnostic Services career pathway.
02.02 Explore a variety of careers in the Diagnostic Services career pathway. Suggested careers to focus on: Medical Laboratory Services; Radiology; Ophthalmology.
02.03 Identify common characteristics of the careers in the Diagnostic Services career pathway.
02.04 Identify skills required to successfully enter any career in the Diagnostic Services career pathway.
02.05 Perform lab activities related to careers being explored for example blood glucose testing, blood typing, and vision testing.
03.0 Demonstrate an understanding of the Health Informatics career pathway. -- The student will be able to:
03.01 Define and use proper terminology associated with the Health Informatics career pathway.

	03.02	Explore a variety of careers in the Health Informatics career pathway.
	03.03	Explore the careers available in the Health Informatics; Medical Coding/Biller; Medical Office Administration.
	03.04	Identify common characteristics of the careers in the Health Informatics career pathway.
	03.05	Identify skills required to successfully enter any career in the Health Informatics career pathway.
	03.06	Perform activities related to health informatics careers such as evaluating medical records or bills, office reception and support.
04.0	Demonstrate an understanding of the Support Services career pathway. -- The student will be able to:	
	04.01	Define and use proper terminology associated with the Support Services career pathway.
	04.02	Explore a variety of careers in the Support Services career pathway. Suggested careers: dietary services; central supply; social services; environmental services.
	04.03	Identify common characteristics of the careers in the Support Services career pathway.
	04.04	Identify skills required to successfully enter any career in the Support Services career pathway.
	04.05	Perform lab skills related to covered careers such as diet plan design and housekeeping skills.
05.0	Demonstrate an understanding of the Biotechnology Research and Development career pathway. -- The student will be able to:	
	05.01	Define and use proper terminology associated with the Biotechnology Research and Development career pathway.
	05.02	Explore a variety of careers in the Biotechnology Research and Development career pathway. Suggested careers: Biomedical Engineering and Biomedical Research.
	05.03	Identify skills required to successfully enter any career in the Biotechnology Research and Development career pathway.
	05.04	Perform lab skills related to covered career, for example: microbiology labs; investigating antisepsis procedures; DNA extraction lab.
	05.05	Explore the role of research in medical advancements and discoveries that promote wellness for example development of vaccines and discovery of the structure of DNA.
06.0	Apply leadership and communication skills. -- The student will be able to:	
	06.01	Increase awareness of leadership opportunities through professional organizations such as Career Technical Student Organizations (CTSOs).
	06.02	Identify the characteristics of effective leadership.
	06.03	Demonstrate effective communication skills.
	06.04	Demonstrate an understanding of how information technology is used in health care.

	Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.
	The student will be able to:
07.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
08.0	Develop skills to locate, evaluate, and interpret career information.
09.0	Identify and demonstrate processes for making short and long term goals.
10.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
11.0	Understand the relationship between educational achievement and career choices/postsecondary options.
12.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
13.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
14.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

Laboratory activities are an integral part of this program. These activities include instruction in the use of safety procedures, tools, equipment, materials, and processes related to these occupations. Equipment and supplies should be provided to enhance hands-on experiences for students.

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.
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Special Notes

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

The intended progression for the Health Science Middle School courses is Introduction to Health Science Career Pathways (8709350 & 8709360), Orientation to Health Science Professions (8400110) and Exploration of Health Science Professions (8400310 & 8400210). By offering the middle school courses in the intended progression, each course increases in complexity, rigor and skill level as appropriate.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

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

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Orientation to Marketing Occupations**
Course Type: **Orientation/Exploratory**
Career Cluster: **Marketing, Sales & Service**

Secondary – Middle School	
Course Number	8800110
CIP Number	020899990R
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	DECA

Purpose

The purpose of this course is to give students an opportunity to apply knowledge and skills related to the area of Marketing, Sales and Service. This program acquaints students with general marketing activities, the importance of marketing in the economy, career opportunities, and job requirements in marketing occupations. The content includes, but is not limited to, the functions of marketing in the economy, employment requirements for a variety of marketing careers, career development patterns, and the identification of career and technical programs for achieving personal career goals.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8800110	Orientation to Marketing Occupations	BUS ED 1 MKTG 1 MKTG MGMT @7 7G RETAILING @7 7G	Semester

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

<u>**Standards**</u>

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

01.0   Identify general marketing activities.
02.0   Identify career opportunities available in marketing.
03.0   Identify employment requirements for marketing careers.
04.0   Identify work values and goal setting tools.
05.0   Identify programs instrumental in developing career choices.
06.0   Identify human relations skills that enable students to succeed in their career goals.
07.0   Identify advantages of DECA and Collegiate DECA.
08.0   Identify foundational skills required in marketing careers.
09.0   Identify the functions of marketing.

Florida Department of Education
Student Performance Standards

Course Title: **Orientation to Marketing Occupations**
Course Number: **8800110**
Course Length: **Semester**

Course Description:
Beginning with a broad overview of the Marketing, Sales and Service career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Marketing, Sales and Service career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills and to participate in hands-on activities.

CTE Standards and Benchmarks
01.0   Identify general marketing activities – the student will be able to:
01.01   Explain the role of marketing in the economy.
01.02   Identify and define selected marketing terms.
01.03   Identify the major marketing activities.
02.0   Identify career opportunities available in marketing – the student will be able to:
02.01   Identify career opportunities which involve selling.
02.02   Identify career opportunities which involve purchasing.
02.03   Identify career opportunities which involve promotion.
02.04   Identify career opportunities which involve risk management.
02.05   Identify career opportunities which involve pricing.
02.06   Identify career opportunities which involve finance.
02.07   Identify career opportunities which involve marketing information management.
02.08   Identify career opportunities which involve product/service planning.
02.09   Identify career opportunities which involve distribution.
02.10   Identify career opportunities at the entry, career sustaining, specialist, and manager/entrepreneur level for marketing.
03.0   Identify employment requirements for marketing careers – the student will be able to:

CTE Standards and Benchmarks	
03.01	Identify employment requirements in the area of selling.
03.02	Identify employment requirements in the area of purchasing.
03.03	Identify employment requirements in the area of promotion.
03.04	Identify employment requirements in the area of risk management.
03.05	Identify employment requirements in the area of pricing.
03.06	Identify employment requirements in the area of finance.
03.07	Identify employment requirements in the area of marketing information management.
03.08	Identify employment requirements in the area of product/service planning.
03.09	Identify employment requirements in the area of distribution.
03.10	Identify employment requirements at the entry, career sustaining, specialist, and manager/entrepreneur level for marketing.
04.0	Identify work values and goal setting tools – the student will be able to:
04.01	Explain how values are acquired and changed.
04.02	Explain how values affect work.
04.03	Identify goal setting tools including a self-inventory and interest survey.
05.0	Identify programs instrumental in developing career choices – the student will be able to:
05.01	Identify senior high school Marketing Education programs available to students who desire a career in marketing (e.g., fashion marketing, travel and tourism, finance, entrepreneurship, international marketing).
05.02	Identify post-secondary education opportunities in marketing (e.g., real estate, insurance, hospitality, customer service, travel).
06.0	Identify human relations skills that will enable students to succeed in their career goals – the student will be able to:
06.01	Identify acceptable grooming and health habits.
06.02	State the importance of dependability and responsible behavior.
06.03	State the importance of a positive attitude.
06.04	State the importance of getting along with co-workers, employers, and other business associates.
07.0	Identify advantages of DECA and Collegiate DECA, Associations of Marketing Students – the student will be able to:

CTE Standards and Benchmarks
07.01 Identify DECA and Collegiate DECA and the role of each organization in marketing education.
07.02 Identify the purposes of DECA and Collegiate DECA.
07.03 Identify the advantages of student involvement in DECA and Collegiate DECA.
07.04 Identify the leadership opportunities available through DECA and Collegiate DECA.
07.05 Identify the competitive event opportunities available through DECA and Collegiate DECA.
07.06 Identify local DECA and Collegiate DECA chapters.
08.0 Identify foundational skills required in marketing careers – the student will be able to:
08.01 Identify economic skills used in marketing.
08.02 Identify marketing, business, and entrepreneurship skills used in marketing.
08.03 Identify communication and interpersonal skills used in marketing.
08.04 Identify professional development skills used in marketing.
08.05 Identify human resource skills used in marketing.
08.06 Identify computer skills used in marketing.
09.0 Identify the functions of marketing – the student will be able to:
09.01 Identify the role of risk management.
09.02 Identify the role of selling.
09.03 Identify the role of promotion.
09.04 Identify the role of pricing.
09.05 Identify the role of purchasing.
09.06 Identify the role of marketing information management.
09.07 Identify the role of product/service management.
09.08 Identify the role of distribution.
09.09 Identify the role of finance.

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.

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English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

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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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

DECA 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploration of Marketing Occupations**
Course Type: **Orientation/Exploratory**
Career Cluster: **Marketing, Sales & Service**

Secondary – Middle School	
Course Number	8800210
CIP Number	02089999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	DECA

Purpose

The purpose of this program is to give students an opportunity to apply knowledge and skills related to the area of Marketing, Sales and Service. This program provides students with initial exposure to the skills and attitudes associated with a broad range of occupations relating to careers in marketing, including job requirements and tasks performed, and assists students in making informed decisions regarding their future academic and occupational goals.

Instruction provides opportunities for students to explore employment opportunities and requirements, job application procedures, tasks performed by workers, as well as leadership and human relations skills in sales and marketing occupations including those that retail or market products and services, and process/manage or distribute materials.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8800210	Exploration of Marketing Occupations	BUS ED 1 MKTG 1 MKTG MGMT 7G	Semester

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

<u>**Standards**</u>

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

01.0   Identify the basic economic environment in marketing.
02.0   Identify the education needed, tasks performed, and employment opportunities for individuals who wish to enter occupations related to product merchandising.
03.0   Identify the education needed, tasks performed, and employment opportunities for individuals who wish to enter marketing services occupations.
04.0   Identify procedures involved in choosing, applying for, keeping, and progressing in marketing occupations.
05.0   Explain the impact of technology on marketing occupations.
06.0   Demonstrate computer literacy.
07.0   Develop individualized education and career plans related to marketing occupational goals.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Marketing Occupations**
Course Number: **8800210**
Course Length: **Semester**

Course Description: Beginning with a broad overview of the Marketing, Sales and Service career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Marketing, Sales and Service career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills and to participate in hands-on activities.

CTE Standards and Benchmarks
01.0 Identify the basic economic environment in marketing – the student will be able to:
01.01 Explain private enterprise.
01.02 Explain profit motive.
01.03 Identify the relationships between people's wants and needs and marketing activities.
02.0 Identify the education needed, tasks performed, and employment opportunities for individuals who wish to enter occupations related to product merchandising and the online marketplace – the student will be able to:
02.01 Identify product merchandising related occupations (e.g., fashion, retailing, food marketing, home furnishings, sporting goods, parts marketing, specialty products, wholesaling, business ownership).
02.02 Identify the basic tasks performed by employees within each of the occupations.
02.03 Identify employment opportunities available in each of the occupations.
02.04 State the educational requirements to prepare a student for entry-level employment in occupations related to product merchandising.
02.05 Identify educational programs available in the state for advanced training in occupations related to product merchandising in secondary through postsecondary education.
03.0 Identify the education needed, tasks performed, and employment opportunities for individuals who wish to enter marketing services occupations – the student will be able to:
03.01 Identify marketing services occupations (e.g., food service, hospitality, travel and tourism, finance, international marketing, insurance, real estate, entrepreneurship).
03.02 Identify the basic tasks performed by employees within each of the occupations.
03.03 Identify employment opportunities available for each of the occupations.
03.04 State the educational requirements to prepare students for entry-level employment in marketing services occupations.

	03.05	Identify educational programs available in the state for advanced training in specific occupations related to marketing services in secondary through postsecondary education.
04.0		Identify procedures involved in choosing, applying for, keeping, and progressing in marketing occupations – the student will be able to:
	04.01	Identify the tasks involved in choosing a marketing occupation (self-inventory, interest survey, research, aptitude test batteries).
	04.02	List the steps in applying for a job, including the aspects of online job searches.
	04.03	Complete a sample job application form using digital apps.
	04.04	Demonstrate the necessary communication skills involved in online, virtual/video conferences and in-person interviews.
	04.05	Identify those characteristics that help people obtain, hold, and progress in marketing-related occupations (for example, digital citizenship, personal branding, and social media etiquette).
	04.06	Develop an individual career plan including a four to six year plan for advanced training in a marketing career.
	04.07	Use appropriate social media sites and online portfolios.
05.0		Explain the impact of technology on marketing occupations – the student will be able to:
	05.01	Explain how technology, including interactive social media and video storytelling strategies, has changed the way retail businesses operate.
	05.02	Explain how technology, including interactive social media and video storytelling strategies, has changed the way wholesale businesses operate.
	05.03	Explain how technology, including interactive social media and video storytelling strategies, has changed the way product merchandising businesses operate.
	05.04	Explain how technology, including interactive social media and video storytelling strategies, has changed the way marketing services businesses operate.
06.0		Demonstrate computer literacy – the student will be able to:
	06.01	Define computer related terms (computer, data input, output, hardware, software, language, processing, memory, program, terminal, peripheral devices, keyboard characters, virtual reality, 3-dimensional devices).
	06.02	Operate a computer using online platforms and applications.
	06.03	Identify the advantages and disadvantages of the use of different computer formats and operating systems.
	06.04	Describe some general uses of computers, smart phones and tablets.
	06.05	Identify the safety precautions that must be observed in using computer equipment.
	06.06	Explain some of the legal and ethical issues involved in using a computer and online/ social media.
	06.07	Use the Internet to explore selected occupations.

CTE Standards and Benchmarks
07.0 Develop individualized education and career plans related to marketing occupational goals – the student will be able to:
07.01 Complete self-assessments and career analysis activities to determine potential success in marketing career fields.
07.02 Research a marketing-related career; identify employment opportunities and educational requirements for advancement.
07.03 Project the career level and earnings required to obtain a desired standard of living.
07.04 Utilize career information to develop an individualized career plan; include a plan to meet educational requirements.

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

DECA 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Culinary Careers**
Course Type: **Orientation/Exploratory**
Career Cluster: **Hospitality & Tourism**

Secondary – Middle School	
Program Number	8809200
CIP Number	0420040106
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Hospitality & Tourism career cluster. The content includes but is not limited to the development of leadership skills, communication skills, and employability skills; resource management; exploration of careers in the culinary field; the importance of health and safety in the culinary environment; and the use of technology in culinary-related careers.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8809200	Fundamentals of Culinary Careers	FAM CON SCI CULINARY 7G	Semester

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document. **Special Note**: The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

Standards

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

01.0   Demonstrate leadership skills.
02.0   Demonstrate employability skills as they relate to the culinary industry.
03.0   Demonstrate effective communication skills.
04.0   Analyze careers in the culinary industry.
05.0   Practice safety, sanitation, and storage procedures in food preparation.
06.0   Identify and demonstrate proper use of culinary equipment and tools.
07.0   Read and interpret a recipe accurately.
08.0   Relate the principles of nutrition to menu development.
09.0   Analyze factors that affect menu development.
10.0   Demonstrate basic food preparation skills.
11.0   Exhibit efficient operation of the back-of-the-house.
12.0   Exhibit efficient operation of the front-of-the-house.
13.0   Demonstrate creative food presentation techniques.
14.0   Demonstrate the skills involved in self-sustainability as it relates to food.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Culinary Careers**
Course Number: **8809200**
Course Credit: **Semester**

Course Description:

This course includes but is not limited to the development of leadership skills, communication skills, and employability skills; resource management; exploration of careers in the culinary; food safety and sanitation; safe, proper use of culinary tools/equipment; interpreting recipes and developing menus; basic food preparation skills; front-of-the-house and back-of-the-house responsibilities; artistic presentation of food; and the use of technology in the culinary field.

CTE Standards and Benchmarks
01.0   Demonstrate leadership skills. The student will be able to:
01.01   Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.02   Work cooperatively as a group member to achieve organizational goals.
01.03   Demonstrate leadership roles and organizational responsibilities.
01.04   Identify and utilize the FCCLA planning process.
01.05   Develop a personal portfolio project.
02.0   Demonstrate employability skills as they relate to the culinary industry. The student will be able to:
02.01   Practice teamwork skills.
02.02   Practice employability skills.
02.03   Demonstrate positive work ethics and identify negative work ethics that can contribute to success in the workplace.
02.04   Exhibit work expectations of the food service employer.
02.05   Apply math, reading, science, and critical thinking skills as they relate to the culinary industry.
03.0   Demonstrate effective communication skills. The student will be able to:
03.01   Describe why communication is the basis for all relationships.

	03.02	Demonstrate the ability to function as a team member in a diverse environment.
	03.03	Develop and demonstrate personal and professional etiquette.
04.0	Analyze careers in the culinary industry. The student will be able to:	
	04.01	Describe careers in the culinary and hospitality industry.
	04.02	Classify careers from entry level to professional level.
	04.03	Explore entrepreneurship opportunities in the culinary industry.
	04.04	Research and present information on a culinary career to include roles and responsibilities, opportunities for employment, and the requirements for education and training. (i.e. FCCLA STAR event "Life Event Planning")
05.0	Practice safety, sanitation, and storage procedures in food preparation. The student will be able to:	
	05.01	Demonstrate practices and procedures that assure personal hygiene.
	05.02	Identify common food borne illnesses, their causes and symptoms.
	05.03	Demonstrate ways to prevent food borne illnesses.
	05.04	Identify and practice food service safety, storage and sanitation procedures.
06.0	Identify and demonstrate proper use of culinary equipment and tools. The student will be able to:	
	06.01	Identify and demonstrate measuring utensils for the appropriate ingredient.
	06.02	Identify and demonstrate the proper and safe use and care of culinary tools.
	06.03	Identify and demonstrate the proper and safe use and care of culinary equipment.
07.0	Read and interpret a recipe accurately. The student will be able to:	
	07.01	Demonstrate an understanding of the purpose and preparation of standardized recipes.
	07.02	Define mise en place and the relationship of organizational skills to productivity.
	07.03	Define and demonstrate common culinary terms used in recipes.
	07.04	Apply common abbreviations and equivalents used in recipes.
	07.05	Demonstrate recipe conversions.

CTE Standards and Benchmarks
08.0   Relate the principles of nutrition to menu development. The student will be able to:
08.01   Describe the purpose of the essential nutrients and list foods providing them.
08.02   Describe the food groups on the USDA Dietary Guideline and the nutrients contained within each group.
08.03   Explain your District's Wellness Policy.
08.04   Interpret the components of food labels and relationship to wellness.
08.05   Identify fad diets and how they affect overall nutrition.
08.06   Develop menus using various dietary guidelines.
08.07   Develop menus that meet the special dietary needs of culinary customers.
09.0   Analyze factors that affect menu development. The student will be able to:
09.01   Identify factors that affect menu planning, i.e. season, cultural influences, trends, and technology.
09.02   Analyze food costs and the impact on menu development. i.e. unit pricing
09.03   Create a variety of menus for various types of culinary establishments.
09.04   Practice time management in the production of meal menus.
10.0   Demonstrate basic food preparation skills. The student will be able to:
10.01   Demonstrate the appropriate techniques for measuring and weighing.
10.02   Practice knife skills.
10.03   Demonstrate various cooking techniques.
10.04   Demonstrate ability to select, store, prepare, and serve nutritious and aesthetically pleasing food.
11.0   Exhibit efficient operation of the back-of-the-house. The student will be able to:
11.01   Define back-of-the-house.
11.02   Identify the back-of-the-house preparation stations.
11.03   Demonstrate the culinary duties and responsibilities of the back-of-the-house staff.

	11.04	Follow industry guidelines for appropriate dress for back of the house staff.
	11.05	Identify technology utilized in the back of house culinary industry. (ie. thermocirculator, point-of-sale, etc.).
12.0	Exhibit efficient operation of the front-of-the-house. The student will be able to:	
	12.01	Define front-of-the-house.
	12.02	Identify and demonstrate the culinary duties and responsibilities of the front-of-the-house staff, i.e. table set up, accurately recording customer requests, practice appropriate serving techniques and collecting money.
	12.03	Follow industry guidelines for appropriate dress for front of the house staff.
	12.04	Analyze the impact of the employee's attitude, appearance, and actions on customer satisfaction.
	12.05	Apply concepts of quality service to ensure customer satisfaction.
	12.06	Identify technology utilized in the culinary industry. (ie. point of sale, inventory controls, etc.).
13.0	Demonstrate creative food presentation techniques. The student will be able to:	
	13.01	Identify the criteria for achieving an aesthetically pleasing plate.
	13.02	Conduct sensory evaluations of plated presentations.
	13.03	Demonstrated plated presentations.
	13.04	Practice various garnishing techniques utilizing a variety of garnishing tools to achieve an edible centerpiece
14.0	Demonstrate the skills involved in self-sustainability as it relates to food. The student will be able to:	
	14.01	Identify the importance of seasonality of foods.
	14.02	Distinguish seasonal food pricing in relation to menu planning.
	14.03	Identify ways to preserve food (i.e. canning, frozen, dehydrated, etc.).
	14.04	Develop a food budget, distinguishing between processed and scratch-made foods.
	14.05	Establish and care for a seasonal garden.
	14.06	Analyze the relationship between resources and attainment of lifestyle.

Laboratory Activities

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

Florida 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

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 Planning

The requirements of section 1003.4156 (1) (e), Florida Statutes, have been integrated into this course. The statute requires that students take a career and education planning course that must result in a completed personalized academic and career plan for the student; must emphasize the importance of entrepreneurship skills; must emphasize technology or the application of technology in career fields; and, beginning in the 2014-2015 academic year, must provide information from the Department of Economic Opportunity's economic security report as described in section 445.07, Florida Statutes.

Career and Technical Student Organization (CTSO)

Family, Career and Community Leaders of America (FCCLA) is the inter-curricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Fundamentals of Culinary Careers and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Hospitality & Tourism

Secondary – Middle School	
Program Number	8809300
CIP Number	0420040107
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Hospitality & Tourism career cluster. The content includes but is not limited to the development of leadership skills, communication skills, and employability skills; resource management; exploration of careers in the culinary field; the importance of health and safety in the culinary environment; and the use of technology in culinary-related careers.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.
To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8809300	Fundamentals of Culinary Careers and Career Planning	FAM CON SCI CULINARY 7G	Semester

Standards

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

01.0   Demonstrate leadership skills.
02.0   Demonstrate employability skills as they relate to the culinary industry.
03.0   Demonstrate effective communication skills
04.0   Analyze careers in the culinary industry.
05.0   Practice safety, sanitation, and storage procedures in food preparation.
06.0   Identify and demonstrate proper use of culinary equipment and tools.
07.0   Read and interpret a recipe accurately.
08.0   Relate the principles of nutrition to menu development.
09.0   Analyze factors that affect menu development.
10.0   Demonstrate basic food preparation skills.
11.0   Exhibit efficient operation of the back-of-the-house.
12.0   Exhibit efficient operation of the front-of-the-house.
13.0   Demonstrate creative food presentation techniques.
14.0   Demonstrate the skills involved in self-sustainability as it relates to food.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

15.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
16.0   Develop skills to locate, evaluate, and interpret career information.
17.0   Identify and demonstrate processes for making short and long term goals.
18.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
19.0   Understand the relationship between educational achievement and career choices/postsecondary options.
20.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
21.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
22.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Culinary Careers and Career Planning**
Course Number: **8809300**
Course Credit: **Semester**

Course Description:

This course includes but is not limited to the development of leadership skills, communication skills, and employability skills; resource management; exploration of careers in the culinary; food safety and sanitation; safe, proper use of culinary tools/equipment; interpreting recipes and developing menus; basic food preparation skills; front-of-the-house and back-of-the-house responsibilities; artistic presentation of food; and the use of technology in the culinary field.

CTE Standards and Benchmarks
01.0 Demonstrate leadership skills. The student will be able to:
01.01 Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.02 Work cooperatively as a group member to achieve organizational goals.
01.03 Demonstrate leadership roles and organizational responsibilities.
01.04 Identify and utilize the FCCLA planning process.
01.05 Develop a personal portfolio project.
02.0 Demonstrate employability skills as they relate to the culinary industry. The student will be able to:
02.01 Identify personal talents and abilities that can contribute to positive self-esteem and success in the work place.
02.02 Practice teamwork skills.
02.03 Practice employability skills.
02.04 Demonstrate positive work ethics and identify negative work ethics that can contribute to success in the workplace.
02.05 Exhibit work expectations of the food service employer.
02.06 Apply math, reading, science, and critical thinking skills as they relate to the culinary industry.

CTE Standards and Benchmarks
03.0   Demonstrate effective communication skills. The student will be able to:
03.01 Develop and demonstrate personal and professional etiquette.
03.02 Describe why communication is the basis for all relationships.
03.03 Demonstrate the ability to function as a team member in a diverse environment.
04.0   Analyze careers in the culinary industry. The student will be able to:
04.01 Describe careers in the culinary and hospitality industry.
04.02 Classify careers from entry level to professional level.
04.03 Explore entrepreneurship opportunities in the culinary industry.
04.04 Research and present information on a culinary career to include roles and responsibilities, opportunities for employment, and the requirements for education and training. (i.e. FCCLA STAR event "Life Event Planning").
05.0   Practice safety, sanitation, and storage procedures in food preparation. The student will be able to:
05.01 Demonstrate practices and procedures that assure personal hygiene.
05.02 Identify common food borne illnesses, their causes and symptoms.
05.03 Demonstrate ways to prevent food borne illnesses.
05.04 Identify and practice food service safety, storage and sanitation procedures.
06.0   Identify and demonstrate proper use of culinary equipment and tools. The student will be able to:
06.01 Identify and demonstrate measuring utensils for the appropriate ingredient.
06.02 Identify and demonstrate the proper and safe use and care of culinary tools.
06.03 Identify and demonstrate the proper and safe use and care of culinary equipment.
07.0   Read and interpret a recipe accurately. The student will be able to:
07.01 Demonstrate an understanding of the purpose and preparation of standardized recipes.
07.02 Define mise en place and the relationship of organizational skills to productivity.
07.03 Define and demonstrate common culinary terms used in recipes.

07.04	Apply common abbreviations and equivalents used in recipes.
07.05	Demonstrate recipe conversions.

08.0 Relate the principles of nutrition to menu development. The student will be able to:

08.01	Describe the purpose of the essential nutrients and list foods providing them.
08.02	Describe the food groups on the USDA Dietary Guideline and the nutrients contained within each group.
08.03	Explain your District's Wellness Policy.
08.04	Interpret the components of food labels and relationship to wellness.
08.05	Identify fad diets and how they affect overall nutrition.
08.06	Develop menus using various dietary guidelines.
08.07	Develop menus that meet the special dietary needs of culinary customers.

09.0 Analyze factors that affect menu development. The student will be able to:

09.01	Identify factors that affect menu planning, i.e. season, cultural influences, trends, and technology.
09.02	Analyze food costs and the impact on menu development. i.e. unit pricing
09.03	Create a variety of menus for various types of culinary establishments.
09.04	Practice time management in the production of meal menus.

10.0 Demonstrate basic food preparation skills. The student will be able to:

10.01	Demonstrate the appropriate techniques for measuring and weighing.
10.02	Practice knife skills.
10.03	Demonstrate various cooking techniques.
10.04	Demonstrate ability to select, store, prepare, and serve nutritious and aesthetically pleasing food.

11.0 Exhibit efficient operation of the back-of-the-house. The student will be able to:

11.01	Define back-of-the-house.

	11.02	Identify the back-of-the-house preparation stations.
	11.03	Demonstrate the culinary duties and responsibilities of the back-of-the-house staff.
	11.04	Follow industry guidelines for appropriate dress for back of the house staff.
	11.05	Identify technology utilized in the back of house culinary industry. (i.e. thermocirculator, point-of-sale, etc.).
12.0	Exhibit efficient operation of the front-of-the-house. The student will be able to:	
	12.01	Define front-of-the-house.
	12.02	Identify and demonstrate the culinary duties and responsibilities of the front-of-the-house staff, i.e. table set up, accurately recording customer requests, practice appropriate serving techniques and collecting money.
	12.03	Follow industry guidelines for appropriate dress for front of the house staff.
	12.04	Analyze the impact of the employee's attitude, appearance, and actions on customer satisfaction.
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	12.06	Identify technology utilized in the culinary industry. (i.e. point of sale, inventory controls, etc.).
13.0	Demonstrate creative food presentation techniques. The student will be able to:	
	13.01	Identify the criteria for achieving an aesthetically pleasing plate.
	13.02	Conduct sensory evaluations of plated presentations.
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	13.04	Practice various garnishing techniques utilizing a variety of garnishing tools to achieve an edible centerpiece
14.0	Demonstrate the skills involved in self-sustainability as it relates to food. The student will be able to:	
	14.01	Identify the importance of seasonality of foods.
	14.02	Distinguish seasonal food pricing in relation to menu planning.
	14.03	Identify ways to preserve food (i.e. canning, frozen, dehydrated, etc.).
	14.04	Develop a food budget, distinguishing between processed and scratch-made foods.
	14.05	Establish and care for a seasonal garden.

CTE Standards and Benchmarks
14.06   Analyze the relationship between resources and attainment of lifestyle.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.
The student will be able to:

15.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
16.0	Develop skills to locate, evaluate, and interpret career information.
17.0	Identify and demonstrate processes for making short and long term goals.
18.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
19.0	Understand the relationship between educational achievement and career choices/postsecondary options.
20.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
21.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
22.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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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 Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

Family, Career and Community Leaders of America (FCCLA) is the inter-curricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploring Hospitality and Tourism Careers**
Course Type: **Orientation/Exploratory**
Career Cluster: **Hospitality & Tourism**

Secondary – Middle School	
Program Number	8850350
CIP Number	148850350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Hospitality & Tourism career cluster. The content includes but is not limited to the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8850350	Exploring Hospitality and Tourism Careers	FAM CON SCI HOTEL TRNG 7 G	Semester

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   Practice safety, sanitation and storage procedures in food preparation.
02.0   Demonstrate an understanding of the Restaurant and Food/Beverage Services career pathway.
03.0   Demonstrate an understanding of the Lodging career pathway.
04.0   Demonstrate an understanding of the Travel and Tourism career pathway.
05.0   Demonstrate an understanding of the Recreation, Amusements and Attractions career pathway.
06.0   Demonstrate an understanding of the cruise line industry career pathway.
07.0   Demonstrate an understanding of other countries' culture as related to the Travel/Tourism industry.
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Hospitality and Tourism career cluster.
10.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Exploring Hospitality and Tourism Careers**
Course Number: **8850350**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Hospitality and Tourism career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Hospitality and Tourism career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

01.0	Practice safety, sanitation, and storage procedures in food preparation. The student will be able to:
	01.01 Demonstrate practices and procedures that assure personal and workplace health and hygiene.
	01.02 List common food borne illnesses and their causes.
	01.03 Demonstrate ways to prevent food borne illnesses.
	01.04 Identify and practice food service safety and sanitation procedures.
02.0	Demonstrate an understanding of the Restaurant and Food/Beverage Services career pathway. The student will be able to:
	02.01 Define and use proper terminology associated with the Restaurant and Food/Beverage Services career pathway.
	02.02 Describe some of the careers available in the Restaurant and Food/Beverage Services career pathway.
	02.03 Identify common characteristics of the careers in the Restaurant and Food/Beverage Services career pathway.
	02.04 Research the history of the Restaurant and Food/Beverage Services career pathway and describe how the associated careers have evolved and impacted society.
	02.05 Identify skills required to successfully enter any career in the Restaurant and Food/Beverage Services career pathway.
	02.06 Describe technologies associated in careers within the Restaurant and Food/Beverage Services career pathway.
03.0	Demonstrate an understanding of the Lodging career pathway. The student will be able to:
	03.01 Define and use proper terminology associated with the Lodging career pathway.

	03.02	Describe some of the careers available in the Lodging career pathway.
	03.03	Identify common characteristics of the careers in the Lodging career pathway.
	03.04	Research the history of the Lodging career pathway and describe how the careers have evolved and impacted society.
	03.05	Identify skills required to successfully enter any career in the Lodging career pathway.
	03.06	Describe technologies associated in careers within the Lodging career pathway.
04.0	Demonstrate an understanding of the Travel and Tourism career pathway. The student will be able to:	
	04.01	Define and use proper terminology associated with the Travel and Tourism career pathway.
	04.02	Describe some of the careers available in the Travel and Tourism career pathway.
	04.03	Identify common characteristics of the careers in the Travel and Tourism career pathway.
	04.04	Research the history of the Travel and Tourism career pathway and describe how the careers have evolved and impacted society.
	04.05	Identify skills required to successfully enter any career in the Travel and Tourism career pathway.
	04.06	Describe technologies associated in careers within the Travel and Tourism career pathway.
	04.07	Define the different types of tourism within the industry.
05.0	Demonstrate an understanding of the Recreation, Amusements and Attractions career pathway. The student will be able to:	
	05.01	Define and use proper terminology associated with the Recreation, Amusements and Attractions career pathway.
	05.02	Describe some of the careers available in the Recreation, Amusements and Attractions career pathway.
	05.03	Identify common characteristics of the careers in the Recreation, Amusements and Attractions career pathway.
	05.04	Research the history of the Recreation, Amusements and Attractions career pathway and describe how the careers have evolved and impacted society.
	05.05	Identify skills required to successfully enter any career in the Recreation, Amusements and Attractions career pathway.
	05.06	Describe technologies associated in careers within the Recreation, Amusements and Attractions career pathway.
06.0	Demonstrate an understanding of the cruise line industry career pathway. The student will be able to:	
	06.01	Discuss the establishment and history of the Cruise Industry.
	06.02	Describe some of the careers available in the Cruise Industry career pathway.

	06.03	Identify skills required to successfully enter any career in the Cruise Industry career pathway.
	06.04	Describe technologies associated in careers within the Cruise Industry career pathway.
	06.05	Identify terminology used in the Cruise Industry
07.0	Demonstrate an understanding of other country's culture as related to the Travel/Tourism Industry. The student will be able to:	
	07.01	Identify major characteristics of a country's culture.
	07.02	Demonstrate knowledge of the Food/Beverage service industry in other countries.
	07.03	Demonstrate knowledge of the Lodging service industry in other countries.
	07.04	Demonstrate knowledge of the Recreation, Amusements and Attractions industry in other countries.
	07.05	Demonstrate knowledge of the Travel/Tourism industry in other countries.
08.0	Apply leadership and communication skills. The student will be able to:	
	08.01	Discuss the establishment and history of the FCCLA organization.
	08.02	Identify the characteristics and responsibilities of organizational leaders.
	08.03	Demonstrate parliamentary procedure skills during a meeting.
	08.04	Participate on a committee which has an assigned task and report to the class.
	08.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	08.06	Use a computer to assist in the completion of a project related to the Hospitality and Tourism career cluster.
09.0	Describe how information technology is used in the Hospitality and Tourism career cluster. The student will be able to:	
	09.01	Identify information technology (IT) careers in the Hospitality and Tourism career cluster, including the responsibilities, tasks and skills they require.
	09.02	Relate information technology project management concepts and terms to careers in the Hospitality and Tourism career cluster.
	09.03	Manage information technology components typically used in professions of the Hospitality and Tourism career cluster.
	09.04	Identify security-related ethical and legal IT issues faced by professionals in the Hospitality and Tourism career cluster.
10.0	Use information technology tools. The student will be able to:	
	10.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Hospitality and Tourism career cluster.

10.02	Use e-mail clients to send simple messages and files to other Internet users.
10.03	Demonstrate ways to communicate effectively using Internet technology.
10.04	Use different types of web search engines effectively to locate information relevant to the Hospitality and Tourism career cluster.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

Family, Career & Community Leaders of America, Inc. (FCCLA) is the inter-curricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploring Hospitality and Tourism Careers and Career Planning**
Course Type: **Orientation/Exploratory**
Career Cluster: **Hospitality & Tourism**

Secondary – Middle School	
Program Number	8850360
CIP Number	148850350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Hospitality & Tourism career cluster. The content includes but is not limited to the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8850360	Exploring Hospitality and Tourism Careers and Career Planning	FAM CON SCI HOTEL TRNG 7 G	Semester

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   Practice safety, sanitation and storage procedures in food preparation.
02.0   Demonstrate an understanding of the Restaurant and Food/Beverage Services career pathway.
03.0   Demonstrate an understanding of the Lodging career pathway.
04.0   Demonstrate an understanding of the Travel and Tourism career pathway.
05.0   Demonstrate an understanding of the Recreation, Amusements and Attractions career pathway.
06.0   Demonstrate an understanding of the Cruise Line Industry career pathway.
07.0   Demonstrate an understanding of other countries' culture as related to the Travel/Tourism industry.
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Hospitality and Tourism career cluster.
10.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:

11.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0   Develop skills to locate, evaluate, and interpret career information.
13.0   Identify and demonstrate processes for making short and long term goals.
14.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0   Understand the relationship between educational achievement and career choices/postsecondary options.
16.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploring Hospitality and Tourism Careers and Career Planning**
Course Number: **8850360**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Hospitality and Tourism career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Hospitality and Tourism career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Practice safety, sanitation, and storage procedures in food preparation. The student will be able to:
01.01 Demonstrate practices and procedures that assure personal and workplace health and hygiene.
01.02 List common food borne illnesses and their causes.
01.03 Demonstrate ways to prevent food borne illnesses.
01.04 Identify and practice food service safety and sanitation procedures.
02.0 Demonstrate an understanding of the Restaurant and Food/Beverage Services career pathway. The student will be able to:
02.01 Define and use proper terminology associated with the Restaurant and Food/Beverage Services career pathway.
02.02 Describe some of the careers available in the Restaurant and Food/Beverage Services career pathway.
02.03 Identify common characteristics of the careers in the Restaurant and Food/Beverage Services career pathway.
02.04 Research the history of the Restaurant and Food/Beverage Services career pathway and describe how the associated careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Restaurant and Food/Beverage Services career pathway.
02.06 Describe technologies associated in careers within the Restaurant and Food/Beverage Services career pathway.
03.0 Demonstrate an understanding of the Lodging career pathway. The student will be able to:

	03.01	Define and use proper terminology associated with the Lodging career pathway.
	03.02	Describe some of the careers available in the Lodging career pathway.
	03.03	Identify common characteristics of the careers in the Lodging career pathway.
	03.04	Research the history of the Lodging career pathway and describe how the careers have evolved and impacted society.
	03.05	Identify skills required to successfully enter any career in the Lodging career pathway.
	03.06	Describe technologies associated in careers within the Lodging career pathway.
04.0	Demonstrate an understanding of the Travel and Tourism career pathway. The student will be able to:	
	04.01	Define and use proper terminology associated with the Travel and Tourism career pathway.
	04.02	Describe some of the careers available in the Travel and Tourism career pathway.
	04.03	Identify common characteristics of the careers in the Travel and Tourism career pathway.
	04.04	Research the history of the Travel and Tourism career pathway and describe how the careers have evolved and impacted society.
	04.05	Identify skills required to successfully enter any career in the Travel and Tourism career pathway.
	04.06	Describe technologies associated in careers within the Travel and Tourism career pathway.
	04.07	Define the different types of tourism within the industry.
05.0	Demonstrate an understanding of the Recreation, Amusements and Attractions career pathway. The student will be able to:	
	05.01	Define and use proper terminology associated with the Recreation, Amusements and Attractions career pathway.
	05.02	Describe some of the careers available in the Recreation, Amusements and Attractions career pathway.
	05.03	Identify common characteristics of the careers in the Recreation, Amusements and Attractions career pathway.
	05.04	Research the history of the Recreation, Amusements and Attractions career pathway and describe how the careers have evolved and impacted society.
	05.05	Identify skills required to successfully enter any career in the Recreation, Amusements and Attractions career pathway.
	05.06	Describe technologies associated in careers within the Recreation, Amusements and Attractions career pathway.
06.0	Demonstrate an understanding of the Cruise Line Industry career pathway. The student will be able to:	

CTE Standards and Benchmarks	
	06.01 Discuss the establishment and history of the Cruise Industry.
	06.02 Describe some of the careers available in the Cruise Industry career pathway.
	06.03 Identify skills required to successfully enter any career in the Cruise Industry career pathway.
	06.04 Describe technologies associated in careers within the Cruise Industry career pathway.
	06.05 Identify terminology used in the Cruise Industry
07.0	Demonstrate an understanding of other country's culture as related to the Travel/Tourism Industry. The student will be able to:
	07.01 Identify major characteristics of a country's culture.
	07.02 Demonstrate knowledge of the Food/Beverage service industry in other countries.
	07.03 Demonstrate knowledge of the Lodging service industry in other countries.
	07.04 Demonstrate knowledge of the Recreation, Amusements and Attractions industry in other countries.
	07.05 Demonstrate knowledge of the Travel/Tourism industry in other countries.
08.0	Apply leadership and communication skills. The student will be able to:
	08.01 Discuss the establishment and history of the FCCLA organization.
	08.02 Identify the characteristics and responsibilities of organizational leaders.
	08.03 Demonstrate parliamentary procedure skills during a meeting.
	08.04 Participate on a committee which has an assigned task and report to the class.
	08.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	08.06 Use a computer to assist in the completion of a project related to the Hospitality and Tourism career cluster.
09.0	Describe how information technology is used in the Hospitality and Tourism career cluster. The student will be able to:
	09.01 Identify information technology (IT) careers in the Hospitality and Tourism career cluster, including the responsibilities, tasks and skills they require.
	09.02 Relate information technology project management concepts and terms to careers in the Hospitality and Tourism career cluster.
	09.03 Manage information technology components typically used in professions of the Hospitality and Tourism career cluster.

CTE Standards and Benchmarks
09.04 Identify security-related ethical and legal IT issues faced by professionals in the Hospitality and Tourism career cluster.
10.0   Use information technology tools. The student will be able to:
10.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Hospitality and Tourism career cluster.
10.02 Use e-mail clients to send simple messages and files to other Internet users.
10.03 Demonstrate ways to communicate effectively using Internet technology.
10.04 Use different types of web search engines effectively to locate information relevant to the Hospitality and Tourism career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to:

11.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0	Develop skills to locate, evaluate, and interpret career information.
13.0	Identify and demonstrate processes for making short and long term goals.
14.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0	Understand the relationship between educational achievement and career choices/postsecondary options.
16.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

Family, Career & Community Leaders of America, Inc. (FCCLA) is the inter-curricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Introduction to Government and Public Administration
Course Type: Orientation/Exploratory
Career Cluster: Government and Public Administration

Secondary – Middle School	
Program Number	8900210
CIP Number	07439999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FPSA and Skills USA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Government and Public Administration career cluster. The content includes but is not limited to education and information services; natural resource management; public administration; social and economic services; urban, rural and community development; transportation industry; public safety, corrections and judicial services; national defense occupations. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8900210	Introduction to Government and Public Administration	TEC CONSTR @7 7G ANY PUBLIC SERV OCC ED G	Semester

Standards

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

01.0   Demonstrate an understanding of the Governance career pathway.
02.0   Demonstrate an understanding of the National Security career pathway.
03.0   Demonstrate an understanding of the Foreign Service career pathway.
04.0   Demonstrate an understanding of the Planning career pathway.
05.0   Demonstrate an understanding of the Revenue and Taxation career pathway.
06.0   Demonstrate an understanding of the Regulation career pathway.
07.0   Demonstrate an understanding of the Public Management and Administration career pathway.
08.0   Apply leadership and communication skills.
09.0   Identify components of network systems.
10.0   Use information technology tools.
11.0   Identify components of network systems.
12.0   Describe and use communication features of information technology.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Public Service Occupations**
                      (Introduction of Government and Public Administration)
Course Number: **8900210**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Government and Public Administration career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Government and Public Administration career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Governance career pathway. The student will be able to:
01.01   Define and use proper terminology associated with the Governance career pathway.
01.02   Describe some of the careers available in the Governance career pathway.
01.03   Identify common characteristics of the careers in the Governance career pathway.
01.04   Research the history of the Governance career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the Governance career pathway.
01.06   Describe technologies associated in careers within the Governance career pathway.
02.0   Demonstrate an understanding of the National Security career pathway. The student will be able to:
02.01   Define and use proper terminology associated with the National Security career pathway.
02.02   Describe some of the careers available in the National Security career pathway.
02.03   Identify common characteristics of the careers in the National Security career pathway.
02.04   Research the history of the National Security career pathway and describe how the careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the National Security career pathway.
02.06   Describe technologies associated in careers within the National Security career pathway.

CTE Standards and Benchmarks
03.0 Demonstrate an understanding of the Foreign Service career pathway. The student will be able to:
03.01 Define and use proper terminology associated with the Foreign Service career pathway.
03.02 Describe some of the careers available in the Foreign Service career pathway.
03.03 Identify common characteristics of the careers in the Foreign Service career pathway.
03.04 Research the history of the Foreign Service career pathway and describe how the careers have evolved and impacted society.
03.05 Identify skills required to successfully enter any career in the Foreign Service career pathway.
03.06 Describe technologies associated in careers within the Foreign Service career pathway.
04.0 Demonstrate an understanding of the Planning career pathway. The student will be able to:
04.01 Define and use proper terminology associated with the Planning career pathway.
04.02 Describe some of the careers available in the Planning career pathway.
04.03 Identify common characteristics of the careers in the Planning career pathway.
04.04 Research the history of the Planning career pathway and describe how the careers have evolved and impacted society.
04.05 Identify skills required to successfully enter any career in the Planning career pathway.
04.06 Describe technologies associated in careers within the Planning career pathway.
05.0 Demonstrate an understanding of the Revenue and Taxation career pathway. The student will be able to:
05.01 Define and use proper terminology associated with the Revenue and Taxation career pathway.
05.02 Describe some of the careers available in the Revenue and Taxation career pathway.
05.03 Identify common characteristics of the careers in the Revenue and Taxation career pathway.
05.04 Research the history of the Revenue and Taxation career pathway and describe how the careers have evolved and impacted society.
05.05 Identify skills required to successfully enter any career in the Revenue and Taxation career pathway.
05.06 Describe technologies associated in careers within the Revenue and Taxation career pathway.
06.0 Demonstrate an understanding of the Regulation career pathway. The student will be able to:
06.01 Define and use proper terminology associated with the Regulation career pathway.

	CTE Standards and Benchmarks
	06.02 Describe some of the careers available in the Regulation career pathway.
	06.03 Identify common characteristics of the careers in the Regulation career pathway.
	06.04 Research the history of the Regulation career pathway and describe how the careers have evolved and impacted society.
	06.05 Identify skills required to successfully enter any career in the Regulation career pathway.
	06.06 Describe technologies associated in careers within the Regulation career pathway.
07.0	Demonstrate an understanding of the Public Management and Administration career pathway. The student will be able to:
	07.01 Define and use proper terminology associated with the Public Management and Administration career pathway.
	07.02 Describe some of the careers available in the Public Management and Administration career pathway.
	07.03 Identify common characteristics of the careers in the Public Management and Administration career pathway.
	07.04 Research the history of the Public Management and Administration career pathway and describe how the careers have evolved and impacted society.
	07.05 Identify skills required to successfully enter any career in the Public Management and Administration career pathway.
	07.06 Describe technologies associated in careers within the Public Management and Administration career pathway.
08.0	Apply leadership and communication skills. The student will be able to:
	08.01 Discuss the establishment and history of the Florida Public Service Association (FPSA) organization.
	08.02 Identify the characteristics and responsibilities of organizational leaders.
	08.03 Demonstrate parliamentary procedure skills during a meeting.
	08.04 Participate on a committee which has an assigned task and report to the class.
	08.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	08.06 Use a computer to assist in the completion of a project related to the Government and Public Administration career cluster.
09.0	Describe how information technology is used in Introduction to Government and Public Administration career cluster. The student will be able to:
	09.01 Identify information technology (IT) careers in the Introduction to Government and Public Administration career cluster, including the responsibilities, tasks and skills they require.
	09.02 Relate information technology project management concepts and terms to careers in the Introduction to Government and Public Administration career cluster.

CTE Standards and Benchmarks	
09.03	Manage information technology components typically used in professions of the Introduction to Government and Public Administration career cluster.
09.04	Identify security-related ethical and legal IT issues faced by professionals in the Introduction to Government and Public Administration career cluster.
10.0	**Use information technology tools. The student will be able to:**
10.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Introduction to Government and Public Administration career cluster.
10.02	Use e-mail clients to send simple messages and files to other Internet users.
10.03	Demonstrate ways to communicate effectively using Internet technology.
10.04	Use different types of web search engines effectively to locate information relevant to the Introduction to Government and Public Administration career cluster.
11.0	**Identify components of network systems. The student will be able to:**
11.01	Identify structure to access internet, including hardware and software components.
11.02	Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
11.03	Recognize essential database concepts.
11.04	Define and use additional networking and internet services.
12.0	**Describe and use communication features of information technology. The student will be able to:**
12.01	Define important internet communications protocols and their roles in delivering basic Internet services.
12.02	Identify basic principles of the Domain Name System (DNS).
12.03	Identify security issues related to Internet clients.

Laboratory Activities

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

Florida 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 length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

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)

FPSA and SkillsUSA are the inter-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Exploration of Criminal Justice Occupations
Course Type: Orientation/Exploratory
Career Cluster: Law, Public Safety & Security

Secondary – Middle School	
Program Number	8900220
CIP Number	0743019904
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA, FPSA Inc.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Law, Public Safety & Security career cluster. The student will be provided with basic information about the kinds of jobs and workers involved, the various career paths, occupational hazards, educational requirements, financial rewards, interpersonal and communication skills, and employability skills required. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

This program is a planned sequence of instruction consisting of one course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8900220	Exploration of Criminal Justice Occupations	LAW ENF @7 7 G CORR OFF 7 G ANY PUB SERV OCC ED G	Semester

Standards

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

01.0   Demonstrate an understanding of the Legal services career pathway.
02.0   Demonstrate an understanding of the Security and protective services career pathway.
03.0   Demonstrate an understanding of the Law enforcement services career pathway.
04.0   Demonstrate an understanding of the Correction services career pathway.
05.0   Apply leadership and communication skills.
06.0   Describe how information technology is used in the Law, Public Safety and Security career cluster.
07.0   Use information technology tools.
08.0   Identify components of Criminal Investigations.
09.0   Describe and use communication protocols for Law, Public Safety & Security career cluster.

Florida Department of Education
Student Performance Standards

Course Title: **Exploration of Criminal Justice Occupations**
Course Number: **8900220**
Course Credit: **Semester**

Course Description:

The program of study explores the law enforcement system, the court system, the correctional system, the correctional probation system, public safety telecommunications and private security officer careers.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Legal services career pathway. – The student will be able to:
01.01   Define and use proper terminology associated with the Legal services career pathway.
01.02   Describe some of the careers available in the Legal services career pathway.
01.03   Identify common characteristics of the careers in the Legal services career pathway.
01.04   Research the history of the Legal services career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the Legal services career pathway.
01.06   Describe technologies associated in careers within the Legal services career pathway.
02.0   Demonstrate an understanding of the Security and protective services career pathway. – The student will be able to:
02.01   Define and use proper terminology associated with the Security and protective services career pathway.
02.02   Describe some of the careers available in the Security and protective services career pathway.
02.03   Identify common characteristics of the careers in the Security and protective services career pathway.
02.04   Research the history of the Security and protective services career pathway and describe how the careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the Security and protective services career pathway.
02.06   Describe technologies associated in careers within the Security and protective services career pathway.
03.0   Demonstrate an understanding of the Law enforcement services career pathway. – The student will be able to:

CTE Standards and Benchmarks
03.01	Define and use proper terminology associated with the Law enforcement services career pathway.
03.02	Describe some of the careers available in the Law enforcement services career pathway to include: a. Law Enforcement b. K-9 c. Dispatch d. Traffic Enforcement e. Investigations f. Agriculture Officer g. Marine Patrol h. Aviation Officer
03.03	Research the history of the Law enforcement services career pathway and describe how the careers have evolved and impacted society from the 1970's to present day.
03.04	Identify skills required to successfully enter any career in the Law enforcement services career pathway to include: a. FBI Academy b. FLETC c. Florida Law Enforcement Academy
03.05	Describe technologies associated in careers within the Law enforcement services career pathway to include: a. Forensics b. Cyber Crime c. Crime Prevention
04.0 Demonstrate an understanding of the Correction services career pathway. – The student will be able to:
04.01	Define and use proper terminology associated with the Correction services career pathway for officer level.
04.02	Describe some of the careers available in the Correction services career pathway to include: a. Officer b. Probation c. Psychology d. Medical e. Social Services f. Food Services g. Gang Investigators
04.03	Identify common characteristics of the careers in the Correction services career pathway.
04.04	Research the history of the Correction services career pathway and describe how the careers have evolved and impacted society from 1970's to present.
04.05	Identify skills required to successfully enter any career in the Correction services career pathway to include: a. Prison Construction b. Digital Courts c. Audio/Visual Monitoring

CTE Standards and Benchmarks	
	04.06 Describe technologies associated in careers within the Correction services career pathway.
05.0	Apply leadership and communication skills. – The student will be able to:
	05.01 Discuss the establishment and history of the FPSA organization.
	05.02 Identify the characteristics and responsibilities of organizational leaders.
	05.03 Demonstrate parliamentary procedure skills during a meeting.
	05.04 Participate on a committee which has an assigned task and report to the class.
	05.05 Demonstrate effective communication skills through delivery of a speech, a powerpoint, or conducting a demonstration.
	05.06 Use a computer to assist in the completion of a project related to the Law, Public Safety and Security career cluster.
06.0	Describe how information technology is used in the Law, Public Safety and Security career cluster. – The student will be able to:
	06.01 Identify information technology (IT) careers in the Law, Public Safety and Security career cluster, including the responsibilities, tasks and skills they require to include: a. NCIC/FCIC b. CAD System in Dispatch c. Computer Forensics d. Encryption
	06.02 Research information technology career for a presentation.
	06.03 Identify security-related ethical and legal IT issues faced by professionals in the Law, Public Safety and Security career cluster to include: a. confidentiality b. personal information (personal computer use)
07.0	Use information technology tools. – The student will be able to:
	07.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in Law, Public Safety and Security career cluster.
	07.02 Use e-mail clients to send simple messages and files to other Internet users.
	07.03 Demonstrate ways to communicate effectively using Internet technology.
	07.04 Use different types of web search engines effectively to locate information relevant to the Law, Public Safety and Security career cluster.
08.0	Identify components of Criminal Investigations.—The student will be able to:
	08.01 Describe some careers available in criminal investigations to include: a. crime scene technician

CTE Standards and Benchmarks		
	b.	crime lab technician
	08.02	Identify evidence is at a crime scene.
	08.03	Describe how to collect evidence at a crime scene.
	08.04	Demonstrate the skills for lifting latent prints.
	08.05	Participate in processing a mock crime scene.
09.0	Describe and use communication protocols for Law, Public Safety & Security career cluster.-- The student will be able to:	
	09.01	Define what a MDT (Mobile Data Terminal) and how it is used.
	09.02	Describe the different types of dispatching organizations.
	09.03	Identify the correct identification of the phonetic alphabet.
	09.04	Identify and use proper radio procedures for communicating.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

SkillsUSA and Florida Public Service Association, Inc. are the inter-curricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Government and Public Administration and Career Planning**
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Government and Public Administration**

Secondary – Middle School	
Program Number	8900360
CIP Number	148900360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA, FPSA Inc.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Government and Public Administration career cluster. The content includes but is not limited to education and information services; natural resource management; public administration; social and economic services; urban, rural and community development; transportation industry; public safety, corrections and judicial services; national defense occupations. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8900360	Introduction to Government and Public Administration and Career Planning	TEC CONSTR @7 7G ANY PUBLIC SERV OCC ED G	Semester

Standards

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

01.0   Demonstrate an understanding of the Governance career pathway.
02.0   Demonstrate an understanding of the National Security career pathway.
03.0   Demonstrate an understanding of the Foreign Service career pathway.
04.0   Demonstrate an understanding of the Planning career pathway.
05.0   Demonstrate an understanding of the Revenue and Taxation career pathway.
06.0   Demonstrate an understanding of the Regulation career pathway.
07.0   Demonstrate an understanding of the Public Management and Administration career pathway.
08.0   Apply leadership and communication skills.
09.0   Identify components of network systems.
10.0   Use information technology tools.
11.0   Identify components of network systems.
12.0   Describe and use communication features of information technology.

Listed below are the eight career and education planning course standards.

13.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
14.0   Develop skills to locate, evaluate, and interpret career information.
15.0   Identify and demonstrate processes for making short and long term goals.
16.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
17.0   Understand the relationship between educational achievement and career choices/postsecondary options.
18.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
19.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
20.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction of Government and Public Administration and Career Planning**
Course Number: **8900360**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Government and Public Administration career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Government and Public Administration career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Governance career pathway. The student will be able to:
01.01   Define and use proper terminology associated with the Governance career pathway.
01.02   Describe some of the careers available in the Governance career pathway.
01.03   Identify common characteristics of the careers in the Governance career pathway.
01.04   Research the history of the Governance career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the Governance career pathway.
01.06   Describe technologies associated in careers within the Governance career pathway.
02.0   Demonstrate an understanding of the National Security career pathway. The student will be able to:
02.01   Define and use proper terminology associated with the National Security career pathway.
02.02   Describe some of the careers available in the National Security career pathway.
02.03   Identify common characteristics of the careers in the National Security career pathway.
02.04   Research the history of the National Security career pathway and describe how the careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the National Security career pathway.
02.06   Describe technologies associated in careers within the National Security career pathway.

CTE Standards and Benchmarks
03.0   Demonstrate an understanding of the Foreign Service career pathway. The student will be able to:
03.01   Define and use proper terminology associated with the Foreign Service career pathway.
03.02   Describe some of the careers available in the Foreign Service career pathway.
03.03   Identify common characteristics of the careers in the Foreign Service career pathway.
03.04   Research the history of the Foreign Service career pathway and describe how the careers have evolved and impacted society.
03.05   Identify skills required to successfully enter any career in the Foreign Service career pathway.
03.06   Describe technologies associated in careers within the Foreign Service career pathway.
04.0   Demonstrate an understanding of the Planning career pathway. The student will be able to:
04.01   Define and use proper terminology associated with the Planning career pathway.
04.02   Describe some of the careers available in the Planning career pathway.
04.03   Identify common characteristics of the careers in the Planning career pathway.
04.04   Research the history of the Planning career pathway and describe how the careers have evolved and impacted society.
04.05   Identify skills required to successfully enter any career in the Planning career pathway.
04.06   Describe technologies associated in careers within the Planning career pathway.
05.0   Demonstrate an understanding of the Revenue and Taxation career pathway. The student will be able to:
05.01   Define and use proper terminology associated with the Revenue and Taxation career pathway.
05.02   Describe some of the careers available in the Revenue and Taxation career pathway.
05.03   Identify common characteristics of the careers in the Revenue and Taxation career pathway.
05.04   Research the history of the Revenue and Taxation career pathway and describe how the careers have evolved and impacted society.
05.05   Identify skills required to successfully enter any career in the Revenue and Taxation career pathway.
05.06   Describe technologies associated in careers within the Revenue and Taxation career pathway.
06.0   Demonstrate an understanding of the Regulation career pathway. The student will be able to:
06.01   Define and use proper terminology associated with the Regulation career pathway.

CTE Standards and Benchmarks
	06.02	Describe some of the careers available in the Regulation career pathway.
	06.03	Identify common characteristics of the careers in the Regulation career pathway.
	06.04	Research the history of the Regulation career pathway and describe how the careers have evolved and impacted society.
	06.05	Identify skills required to successfully enter any career in the Regulation career pathway.
	06.06	Describe technologies associated in careers within the Regulation career pathway.
07.0	Demonstrate an understanding of the Public Management and Administration career pathway. The student will be able to:
	07.01	Define and use proper terminology associated with the Public Management and Administration career pathway.
	07.02	Describe some of the careers available in the Public Management and Administration career pathway.
	07.03	Identify common characteristics of the careers in the Public Management and Administration career pathway.
	07.04	Research the history of the Public Management and Administration career pathway and describe how the careers have evolved and impacted society.
	07.05	Identify skills required to successfully enter any career in the Public Management and Administration career pathway.
	07.06	Describe technologies associated in careers within the Public Management and Administration career pathway.
08.0	Apply leadership and communication skills. The student will be able to:
	08.01	Discuss the establishment and history of the Florida Public Service Association (FPSA) organization.
	08.02	Identify the characteristics and responsibilities of organizational leaders.
	08.03	Demonstrate parliamentary procedure skills during a meeting.
	08.04	Participate on a committee which has an assigned task and report to the class.
	08.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	08.06	Use a computer to assist in the completion of a project related to the Government and Public Administration career cluster.
09.0	Describe how information technology is used in Introduction to Government and Public Administration career cluster. The student will be able to:
	09.01	Identify information technology (IT) careers in the Introduction to Government and Public Administration career cluster, including the responsibilities, tasks and skills they require.
	09.02	Relate information technology project management concepts and terms to careers in the Introduction to Government and Public Administration career cluster.

	09.03	Manage information technology components typically used in professions of the Introduction to Government and Public Administration career cluster.
	09.04	Identify security-related ethical and legal IT issues faced by professionals in the Introduction to Government and Public Administration career cluster.
10.0	Use information technology tools. The student will be able to:	
	10.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Introduction to Government and Public Administration career cluster.
	10.02	Use e-mail clients to send simple messages and files to other Internet users.
	10.03	Demonstrate ways to communicate effectively using Internet technology.
	10.04	Use different types of web search engines effectively to locate information relevant to the Introduction to Government and Public Administration career cluster.
11.0	Identify components of network systems. The student will be able to:	
	11.01	Identify structure to access internet, including hardware and software components.
	11.02	Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
	11.03	Recognize essential database concepts.
	11.04	Define and use additional networking and internet services.
12.0	Describe and use communication features of information technology. The student will be able to:	
	12.01	Define important internet communications protocols and their roles in delivering basic Internet services.
	12.02	Identify basic principles of the Domain Name System (DNS).
	12.03	Identify security issues related to Internet clients.
Listed below are the eight career and education planning course standards:		
The student will be able to:		
13.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.	
14.0	Develop skills to locate, evaluate, and interpret career information.	
15.0	Identify and demonstrate processes for making short and long term goals.	

CTE Standards and Benchmarks	
16.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
17.0	Understand the relationship between educational achievement and career choices/postsecondary options.
18.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
19.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
20.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

SkillsUSA and FPSA, Inc. are the inter-curricular 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Government and Public Administration**
Course Type: **Orientation/Exploratory**
Career Cluster: **Government and Public Administration**

Secondary – Middle School	
Program Number	8900500
CIP Number	148900500M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA, FPSA Inc.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Government and Public Administration career cluster. The content includes but is not limited to education and information services; natural resource management; public administration; social and economic services; urban, rural and community development; transportation industry; public safety, corrections and judicial services; national defense occupations. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8900500	Fundamentals of Government and Public Administration	TEC CONSTR @7 7G ANY PUBLIC SERV OCC ED G	Semester

Standards

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

01.0   Apply concepts of geography used in government and public administration.
02.0   Describe the functions of government and public administration.
03.0   Describe communication formats used to facilitate the exchange of ideas in government and public administration.
04.0   Discuss the governmental policy making process.
05.0   Discuss the importance of health, safety and environmental management systems in government and public administration.
06.0   Develop and present persuasive arguments on political and/or social topics.
07.0   Manage leadership and communication skills.
08.0   Demonstrate good work habits, and career planning.
09.0   Integrate the use of science, mathematics, reading, geography, history, writing, and communication.
10.0   Identify components of network systems.
11.0   Describe and use communication features of information technology.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Government and Public Administration**
Course Number: **8900500**
Course Credit: **Semester**

Course Description:

This course is designed to provide instruction that explores the tasks, training, education and physical requirements of occupations in the Government and Public Administration career cluster. The content is constructed to develop competencies in the areas of graphic tools and techniques; functions and forms of government and public administration and the mechanics of developing and implementing policy and law.

CTE Standards and Benchmarks
01.0   Apply concepts of geography used in government and public administration. The student will be able to:
01.01   Identify graphic tools and technologies used in government and public administration occupations.
01.02   Locate places and regions using maps and globes.
01.03   Create maps and graphs to display geographic information.
02.0   Describe the functions of government and public administration. The student will be able to:
02.01   Discuss the various forms of governance.
02.02   Define the concepts of authority, rights, and responsibility in government and public administration.
03.0   Describe communication formats used to facilitate the exchange of ideas in government and public administration. The student will be able to:
03.01   Identify public issues at the local, state and national levels.
03.02   Debate a public issue of importance to your community
03.03   Debate a public issue impacting the state and/or nation.
03.04   Make a presentation explaining the impact of a national public issue on your local community.
03.05   Conduct an interview on a state public issue
04.0   Discuss the governmental policy making process. The student will be able to:

	CTE Standards and Benchmarks
	04.01 Explain the difference between the legislative branch and executive branch of government.
	04.02 Explain the role of the legislature.
	04.03 Explain the role of congress.
	04.04 Discuss how bills become laws.
	04.05 Identify organizations that engage in the political process.
	04.06 Develop a public policy and explain the benefits to the community
05.0	Discuss the importance of health, safety and environmental management systems in government and public administration. The student will be able to:
	05.01 Identify possible risk of injury/illness in the workplace.
	05.02 Identify safety signs and symbols.
	05.03 Create and present a solution to address risk of injury/illness in the workplace.
	05.04 Identify hazards in the workplace.
	05.05 Identify the government agencies responsible for providing a safe workplace.
	05.06 Create a presentation for employees on preparedness for a safe environment.
06.0	Develop and present persuasive arguments on political and/or social topics. The student will be able to:
	06.01 Identify differing political or social perspectives on a public policy impacting the local community.
	06.02 Research and present a perspective on a policy
	06.03 Debate a public policy.
07.0	Manage leadership and communication skills. The student will be able to:
	07.01 Compare the characteristics and responsibilities of organizational leaders.
	07.02 Demonstrate parliamentary procedure skills during a meeting.
	07.03 Participate on a committee which has an assigned task and report to the class.
	07.04 Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.
	07.05 Use a computer to assist in the completion of a project.

CTE Standards and Benchmarks	
08.0	Demonstrate good work habits, and career planning. The student will be able to:
	08.01 Identify attitudes and habits necessary to achieve career success.
	08.02 Describe personality aspects to consider when choosing a career.
	08.03 Identify the basic steps in career planning.
	08.04 Identify and research careers within a specific area of government or public administration.
09.0	Integrate the use of science, mathematics, reading, geography, history, writing, and communication. The student will be able to:
	09.01 Apply basic mathematics operations to solve problems.
	09.02 Correctly use measuring devices and utilize measurements.
	09.03 Prepare written and/or oral materials using correct English grammar.
	09.04 Identify the main idea in oral presentations and/or written materials.
	09.05 Locate, organize, and interpret information from a variety of sources.
	09.06 Describe the historical evolution of government and public administration.
10.0	Identify components of network systems. The student will be able to:
	10.01 Identify structure to access internet, including hardware and software components.
	10.02 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
	10.03 Recognize essential database concepts.
	10.04 Define and use additional networking and internet services.
11.0	Describe and use communication features of information technology. The student will be able to:
	11.01 Define important internet communications protocols and their roles in delivering basic Internet services.
	11.02 Identify basic principles of the Domain Name System (DNS).
	11.03 Identify security issues related to Internet clients.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

SkillsUSA, FPSA Inc. are the inter-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Human Service Careers**
Course Type: **Orientation/Exploratory**
Career Cluster: **Human Services**

Secondary – Middle School	
Program Number	8960300
CIP Number	148960300M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Human Services career cluster. The content includes but is not limited to making career choices, basic employability skills that relate to content extracted from any family and consumer sciences exploratory course including the development of leadership and organization skills within the program.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8960300	Fundamentals of Human Service Careers	FAM CON SC 1	Semester

<u>Standards</u>

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

01.0   Discuss early childhood development and services.
02.0   Describe counseling and mental health services.
03.0   Discuss family and community services.
04.0   Describe personal care services.
05.0   Identify Consumer Services organizations.
06.0   Demonstrate leadership and communication.
07.0   Integrate the use of science, mathematics, reading, writing, and communications.
08.0   Recognize the value of responsibility, good work habits, and planning for career opportunities in agriculture services.
09.0   Identify components of network systems.
10.0   Describe and use communication features of information technology.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Human Service Careers**
Course Number: **8960300**
Course Credit: **Semester**

Course Description:

This course is designed to develop competencies in the area of human services. The content includes communications, safety, child development services, counseling and mental health services, family and community services, personal care services, consumer services and leadership skills. Laboratory-based activities are an integral part of this course. These include safe use and application of appropriate technology.

CTE Standards and Benchmarks
01.0   Discuss early childhood development and services. – The student will be able to:
01.01   Describe a safe and sanitary learning environment for child.
01.02   Describe the indicators of a healthy child.
01.03   Identify common indicators of child abuse and neglect.
01.04   Describe common physical, emotional, intellectual and social milestones for children.
01.05   Discuss strategies that promote growth and development.
01.06   Create a developmentally appropriate activity to reflect interests and developmental levels.
01.07   Arrange learning centers that provide for a child's exploration, discovery and development.
01.08   Observe and document children's progress.
01.09   Evaluate games, equipment, activities, books, and play materials for age appropriateness.
02.0   Describe counseling and mental health services. – The student will be able to:
02.01   Research counseling and mental health services available at the state and local level.
02.02   Describe common cause for seeking counseling and mental health services.
02.03   Describe a physically healthy environment to enhance effectiveness of treatment.

CTE Standards and Benchmarks

	02.04	Plan furniture and décor for a counseling or mental health facility.
	02.05	Discuss the ethical and legal responsibilities of the counseling services to the client.
03.0	Discuss family and community services. – The student will be able to:	
	03.01	Research family and community services available through agencies, organizations, and churches at the local and state level.
	03.02	Create documents to advertise family and community services.
	03.03	Discuss the ethical and legal responsibilities of the family and community services to the client.
04.0	Describe personal care services. – The student will be able to:	
	04.01	Describe and apply principles of biology necessary to select safe and effective personal care products and services.
	04.02	Explain principles of chemistry in the composition, structure and properties of processes of a broad-range of personal care products and services.
	04.03	Apply basic principles of human anatomy necessary in order to determine needed personal care.
	04.04	Create advertisement documents to attract and retain human services clientele.
	04.05	Discuss the ethical and legal responsibilities of the personal services provider to the client.
05.0	Identify consumer services. – The student will be able to:	
	05.01	Examine consumer services laws and ethics required for obtaining licensures.
	05.02	Discuss client/consumer service skills including ability to empathize and to motivate clients.
	05.03	Research and recommend products, plans or services.
	05.04	Create advertisement documents for specific audiences.
	05.05	Describe ethical and legal responsibilities associated with providing consumer services to clients and consumers.
06.0	Demonstrate leadership and communication styles. – The student will be able to:	
	06.01	Explore the establishment and history of the FCCLA organization.
	06.02	Analyze the characteristics and responsibilities of organizational leaders.
	06.03	Demonstrate parliamentary procedure skills during a meeting.

CTE Standards and Benchmarks

	06.04	Evaluate a committee which has an assigned task and report to the class.
	06.05	Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.
	06.06	Use a computer to assist in the completion of a project.
07.0	Integrate the use of science, mathematics, reading, writing, and communications. – The student will be able to:	
	07.01	Apply basic mathematics operations to solve problems.
	07.02	Prepare written and/or oral materials using correct English grammar.
	07.03	Identify the main idea in oral presentations and/or written materials.
	07.04	Locates, organizes, and interprets information from a variety of sources.
08.0	Recognize the value of responsibility, good work habits, and planning for career opportunities in agriculture services. – The student will be able to:	
	08.01	Identify attitudes and habits necessary to achieve career success.
	08.02	Describe personality aspects to consider when choosing a career.
	08.03	Identify the basic steps in career planning.
	08.04	Develop basic career plan.
	08.05	Identify and research careers within a specific area of human services
09.0	Identify components of network systems. – The student will be able to:	
	09.01	Identify attitudes and habits necessary to achieve career success.
	09.02	Identify structure to access internet, including hardware and software components.
	09.03	Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
	09.04	Recognize essential database concepts.
	09.05	Define and use additional networking and internet services.
10.0	Describe and use communication features of information technology. – The student will be able to:	
	10.01	Define important internet communications protocols and their roles in delivering basic internet services.

CTE Standards and Benchmarks	
10.02	Identify basic principles of the Domain Name System (DNS).
10.03	Identify security issues related to Internet clients.

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.

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English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

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Career and Technical Student Organization (CTSO)

Family, Career and Community Leaders of America (FCCLA) 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Human Service Careers**
Course Type: **Orientation/Exploratory**
Career Cluster: **Human Services**

Secondary – Middle School	
Program Number	8960350
CIP Number	148960350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Human Services career cluster. The content includes but is not limited to making career choices, basic employability skills that relate to content extracted from any family and consumer sciences exploratory course including the development of leadership and organization skills within the program.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8960350	Introduction to Human Services Careers	FAM CON SC 1	Semester

Standards

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

01.0   Demonstrate an understanding of the Early Childhood Development and Services career pathway.
02.0   Demonstrate an understanding of the Counseling and Mental Health Services career pathway.
03.0   Demonstrate an understanding of the Family and Community Services career pathway.
04.0   Demonstrate an understanding of the Personal Care Services career pathway.
05.0   Demonstrate an understanding of the Consumer Services career pathway.
06.0   Apply leadership and communication skills.
07.0   Describe how information technology is used in the Human Services career cluster.
08.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Human Service Careers**
Course Number: **8960350**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Human Services career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Human Services career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Early Childhood Development and Services career pathway. – The student will be able to:
01.01 Define and use proper terminology associated with the Early Childhood Development and Services career pathway.
01.02 Describe some of the careers available in the Early Childhood Development and Services career pathway.
01.03 Identify common characteristics of the careers in the Early Childhood Development and Services career pathway.
01.04 Research the history of the Early Childhood Development and Services career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Early Childhood Development and Services career pathway.
01.06 Describe technologies associated in careers within the Early Childhood Development and Services career pathway.
02.0 Demonstrate an understanding of the Counseling and Mental Health Services career pathway. – The student will be able to:
02.01 Define and use proper terminology associated with the Counseling and Mental Health Services career pathway.
02.02 Describe some of the careers available in the Counseling and Mental Health Services career pathway.
02.03 Identify common characteristics of the careers in the Counseling and Mental Health Services career pathway.
02.04 Research the history of the Counseling and Mental Health Services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Counseling and Mental Health Services career pathway.

CTE Standards and Benchmarks	
	02.06 Describe technologies associated in careers within the Counseling and Mental Health Services career pathway.
03.0	Demonstrate an understanding of the Family and Community Services career pathway. – The student will be able to:
	03.01 Define and use proper terminology associated with the Family and Community Services career pathway.
	03.02 Describe some of the careers available in the Family and Community Services career pathway.
	03.03 Identify common characteristics of the careers in the Family and Community Services career pathway.
	03.04 Research the history of the Family and Community Services career pathway and describe how the careers have evolved and impacted society.
	03.05 Identify skills required to successfully enter any career in the Family and Community Services career pathway.
	03.06 Describe technologies associated in careers within the Family and Community Services career pathway.
04.0	Demonstrate an understanding of the Personal Care Services career pathway. – The student will be able to:
	04.01 Define and use proper terminology associated with the Personal Care Services career pathway.
	04.02 Describe some of the careers available in the Personal Care Services career pathway.
	04.03 Identify common characteristics of the careers in the Personal Care Services career pathway.
	04.04 Research the history of Personal Care Services career have evolved and impacted society.
	04.05 Identify skills required to successfully enter any career in the Personal Care Services career pathway.
	04.06 Describe technologies associated in careers within the Personal Care Services career pathway.
05.0	Demonstrate an understanding of the Consumer Services career pathway. – The student will be able to:
	05.01 Define and use proper terminology associated with the Consumer Services career pathway.
	05.02 Describe some of the careers available in the Consumer Services career pathway.
	05.03 Identify common characteristics of the careers in the Consumer Services career pathway.
	05.04 Research the history of Consumer Services career have evolved and impacted society.
	05.05 Identify skills required to successfully enter any career in the Consumer Services career pathway.
	05.06 Describe technologies associated in careers within the Consumer Services career pathway.

CTE Standards and Benchmarks
06.0   Apply leadership and communication skills. – The student will be able to:
06.01   Discuss the establishment and history of the FCCLA organization.
06.02   Identify the characteristics and responsibilities of organizational leaders.
06.03   Demonstrate parliamentary procedure skills during a meeting.
06.04   Participate on a committee which has an assigned task and report to the class.
06.05   Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
06.06   Use a computer to assist in the completion of a project related to the Human Services career cluster.
07.0   Describe how information technology is used in the Human Services career cluster. – The student will be able to:
07.01   Identify information technology (IT) careers in the Human Services career cluster, including the responsibilities, tasks, and skills they require.
07.02   Relate information technology project management concepts and terms to careers in the Human Services career cluster.
07.03   Manage information technology components typically used in professions of the Human Services career cluster.
07.04   Identify security-related ethical and legal IT issues faced by professionals in the Human Services career cluster.
08.0   Use information technology tools. – The student will be able to:
08.01   Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Human Services career cluster.
08.02   Use e-mail clients to send simple messages and files to other internet users.
08.03   Demonstrate ways to communicate effectively using internet technology.
08.04   Use different types of web search engines effectively to locate information relevant to the Human Services career cluster.

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.

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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.

Florida Department of Education
Curriculum Framework

Course Title:	**Introduction to Human Service Careers and Career Planning**
Course Type:	**Orientation/Exploratory and Career Planning**
Career Cluster:	**Human Services**

Secondary – Middle School	
Program Number	8960360
CIP Number	148960360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Human Services career cluster. The Human Services Career Cluster prepares you for jobs that relate to families and human needs. Whether you want to be a social worker, a childcare provider or a hairdresser, you will be addressing human needs. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8960360	Introduction to Human Service Careers and Career Planning	FAM CON SC 1	Semester

Standards

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

01.0   Demonstrate an understanding of the Early Childhood Development and Services career pathway.
02.0   Demonstrate an understanding of the Counseling and Mental Health Services career pathway.
03.0   Demonstrate an understanding of the Family and Community Services career pathway.
04.0   Demonstrate an understanding of the Personal Care Services career pathway.
05.0   Demonstrate an understanding of the Consumer Services career pathway.
06.0   Apply leadership and communication skills.
07.0   Describe how information technology is used in the Human Services career cluster.
08.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

09.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
10.0   Develop skills to locate, evaluate, and interpret career information.
11.0   Identify and demonstrate processes for making short and long term goals.
12.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
13.0   Understand the relationship between educational achievement and career choices/postsecondary options.
14.0   Identify a career cluster and related pathways that match career and education goals.
15.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
16.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Human Service Careers and Career Planning**
Course Number: **8960360**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Human Services career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Human Services career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Early Childhood Development and Services career pathway. – The student will be able to:
01.01   Define and use proper terminology associated with the Early Childhood Development and Services career pathway.
01.02   Describe some of the careers available in the Early Childhood Development and Services career pathway.
01.03   Identify common characteristics of the careers in the Early Childhood Development and Services career pathway.
01.04   Research the history of the Early Childhood Development and Services career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the Early Childhood Development and Services career pathway.
01.06   Describe technologies associated in careers within the Early Childhood Development and Services career pathway.
02.0   Demonstrate an understanding of the Counseling and Mental Health Services career pathway. – The student will be able to:
02.01   Define and use proper terminology associated with the Counseling and Mental Health Services career pathway.
02.02   Describe some of the careers available in the Counseling and Mental Health Services career pathway.
02.03   Identify common characteristics of the careers in the Counseling and Mental Health Services career pathway.
02.04   Research the history of the Counseling and Mental Health Services career pathway and describe how the careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the Counseling and Mental Health Services career pathway.
02.06   Describe technologies associated in careers within the Counseling and Mental Health Services career pathway.

CTE Standards and Benchmarks
03.0 Demonstrate an understanding of the Family and Community Services career pathway. – The student will be able to:
03.01 Define and use proper terminology associated with the Family and Community Services career pathway.
03.02 Describe some of the careers available in the Family and Community Services career pathway.
03.03 Identify common characteristics of the careers in the Family and Community Services career pathway.
03.04 Research the history of the Family and Community Services career pathway and describe how the careers have evolved and impacted society.
03.05 Identify skills required to successfully enter any career in the Family and Community Services career pathway.
03.06 Describe technologies associated in careers within the Family and Community Services career pathway.
04.0 Demonstrate an understanding of the Personal Care Services career pathway. – The student will be able to:
04.01 Define and use proper terminology associated with the Personal Care Services career pathway.
04.02 Describe some of the careers available in the Personal Care Services career pathway.
04.03 Identify common characteristics of the careers in the Personal Care Services career pathway.
04.04 Research the history of Personal Care Services career have evolved and impacted society.
04.05 Identify skills required to successfully enter any career in the Personal Care Services career pathway.
04.06 Describe technologies associated in careers within the Personal Care Services career pathway.
05.0 Demonstrate an understanding of the Consumer Services career pathway. – The student will be able to:
05.01 Define and use proper terminology associated with the Consumer Services career pathway.
05.02 Describe some of the careers available in the Consumer Services career pathway.
05.03 Identify common characteristics of the careers in the Consumer Services career pathway.
05.04 Research the history of Consumer Services career have evolved and impacted society.
05.05 Identify skills required to successfully enter any career in the Consumer Services career pathway.
05.06 Describe technologies associated in careers within the Consumer Services career pathway.
06.0 Apply leadership and communication skills. – The student will be able to:
06.01 Discuss the establishment and history of the FCCLA organization.

CTE Standards and Benchmarks	
06.02	Identify the characteristics and responsibilities of organizational leaders.
06.03	Demonstrate parliamentary procedure skills during a meeting.
06.04	Participate on a committee which has an assigned task and report to the class.
06.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
06.06	Use a computer to assist in the completion of a project related to the Human Services career cluster.
07.0	Describe how information technology is used in the Human Services career cluster. – The student will be able to:
07.01	Identify information technology (IT) careers in the Human Services career cluster, including the responsibilities, tasks, and skills they require.
07.02	Relate information technology project management concepts and terms to careers in the Human Services career cluster.
07.03	Manage information technology components typically used in professions of the Human Services career cluster.
07.04	Identify security-related ethical and legal IT issues faced by professionals in the Human Services career cluster.
08.0	Use information technology tools. – The student will be able to:
08.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Human Services career cluster.
08.02	Use e-mail clients to send simple messages and files to other internet users.
08.03	Demonstrate ways to communicate effectively using internet technology.
08.04	Use different types of web search engines effectively to locate information relevant to the Human Services career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to:

09.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
10.0	Develop skills to locate, evaluate, and interpret career information.
11.0	Identify and demonstrate processes for making short and long term goals.
12.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
13.0	Understand the relationship between educational achievement and career choices/postsecondary options.

CTE Standards and Benchmarks
14.0   Identify a career cluster and related pathways that match career and education goals.
15.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
16.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

FCCLA is the inter-curricular 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Exploring Family and Consumer Sciences (FACS)
Course Type: Orientation/Exploratory
Career Cluster: Human Services

Secondary – Middle School	
Course Number	8960370
CIP Number	14896037MS
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FCCLA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the various career clusters. The content includes but is not limited to food preparation and nutrition, fashion and interior design concepts, personal finance, healthy relationships and child care practices. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8960370	Exploring Family and Consumer Sciences (FACS)	FAM CON SC 1 FASH TECH 7 G INT DES 7 G CULINARY 7 G PRESCH ED L	Semester

<u>Standards</u>

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

01.0   Demonstrate leadership skills.
02.0   Identify and apply skills needed for positive interpersonal relationships.
03.0   Demonstrate an understanding of food preparation skills and nutrition.
04.0   Demonstrate knowledge, skills and practices of early childhood care.
05.0   Apply the decision making process to personal finance choices.
06.0   Demonstrate an understanding of fashion and sewing concepts.
07.0   Demonstrate an understanding of housing and interior design.

Florida Department of Education
Student Performance Standards

Course Title: Exploring Family and Consumer Sciences (FACS)
Course Number: 8960370
Course Length: Semester

Course Description:

This course is designed to introduce students to the various disciplines within the Family and Consumer Sciences field. By the end of this course, students will have a foundational understanding of food preparation and nutrition, fashion and interior design concepts, personal finance, healthy relationships and child care practices.

CTE Standards and Benchmarks
01.0   Demonstrate leadership skills. – The student will be able to:
01.01   Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.02   Work cooperatively as a group member to achieve organizational goals.
01.03   Demonstrate leadership roles and organizational responsibilities.
01.04   Identify and utilize the FCCLA planning process.
01.05   Discuss the establishment and history of the FCCLA organization.
02.0   Identify and apply skills needed for positive interpersonal relationships. – The student will be able to:
02.01   Distinguish between the types of communication, i.e., social media, texting, nonverbal, etc.
02.02   Identify the various types of relationships, such as family, friends, and peers.
02.03   Define self-esteem and state how a positive self-concept builds healthy relationships.
02.04   Identify common areas of conflict and possible resolutions for healthy relationships.
03.0   Demonstrate an understanding of food preparation skills and nutrition. – The student will be able to:
03.01   Identify current USDA dietary guidelines to plan daily food choices and maintain wellness.
03.02   Interpret and use recipes.

CTE Standards and Benchmarks			
	03.03	Select, use, care for and store food preparation equipment.	
	03.04	Identify and apply food safety and sanitation practices.	
	03.05	Identify and demonstrate acceptable behaviors for table service and etiquette.	
	03.06	Specify nutritional needs of the young adult.	
04.0	Demonstrate knowledge, skills and practices of early childhood care. – The students will be able to:		
	04.01	Identify stages of child development and age appropriate activities.	
	04.02	List the roles and responsibilities of parents and caregivers.	
	04.03	Identify community resources that benefit children, such as first aid and critical emergency skills.	
	04.04	Explore toys, books, games, and software of interest to children.	
	04.05	Demonstrate safe and proper use of toys and equipment, including safe play.	
	04.06	Compare different forms of guidance (i.e. redirection of behavior) used with children in different situations.	
05.0	Apply the decision making process to personal finance choices. – The student will be able to:		
	05.01	Identify needs versus wants.	
	05.02	Research and use various consumer information sources to make purchases (i.e. online versus store front).	
	05.03	Set financial goals, including saving and investing.	
	05.04	Develop a plan for resource management (i.e., develop a plan for managing a budget)	
	05.05	Identify ways to keep personal information safe and utilize consumer safety guidelines.	
06.0	Demonstrate an understanding of fashion and sewing concepts. – The student will be able to:		
	06.01	Determine values/needs/wants related to wardrobe and grooming.	
	06.02	Recognize factors that influence clothing purchases.	
	06.03	Identify sewing tools and techniques.	
	06.04	Use tools and materials to create a personalized individual and/or group project.	
07.0	Demonstrate an understanding of housing and interior design. – The student will be able to:		

CTE Standards and Benchmarks	
07.01	Identify lifestyle, common needs, common values and goals related to housing.
07.02	Identify elements and principles of design.
07.03	Demonstrate ways to create a comfortable living space.

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.

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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)

Family, Career and Community Leaders of America (FCCLA) 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Vocational Employability Skills for Youth and Career Planning**
Program Type: **Non Career Preparatory**
Career Cluster: **Instructional Support Services**

Secondary – Non Career Preparatory	
Program Number	9001820
CIP Number	11990007CE
Grade Level	6-12
Standard Length	.5/multiple credits
Teacher Certification	Refer to the Program Structure section.
CTSO	NA

Purpose

This program offers a course 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; 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.

The purpose of this program is to provide career and technical education competencies for youth being served by Department of Juvenile Justice programs. Basic practical and job preparatory instruction is provided in the competencies necessary for a better understanding of the world of work and for entry-level employment. The specific program content includes measurable components from any of the career and technical program areas with heavy emphasis on work ethics and employability skills.

The content includes but is not limited to employability and technical 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 intended to provide short-term occupational education for individuals being served by Department of Juvenile Justice programs. The objective is to provide a foundation of survival skills for a transition into entry-level employment and/or additional on-the-job training.

The following table illustrates the secondary program structure:

Course Number	Course Title	Teacher Certification	Length	Level	Graduation Requirement
9001820	Vocational Employability Skills for Youth and Career Planning	ANY CTE FIELD OR COVERAGE ANY FIELD WHEN CERT REFLECTS BACHELOR OR HIGHER	.5 (Credit is not awarded at middle school level)	NA	

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 realistic employment goals.
02.0   Describe human relations skills necessary for success in the workforce.
03.0   Identify types of communication skills necessary for successful employment.
04.0   Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
05.0   Use oral and written communication skills in creating, expressing and interpreting information and ideas.
06.0   Describe the duties and responsibilities of a successful employee.
07.0   Demonstrate the competencies of employability and career development.
08.0   Use information technology tools.
09.0   Demonstrate the importance of health, safety, and environmental management systems in organizational performance and regulatory compliance.
10.0   Describe the roles within teams, work units, departments, organizations, inter-organizational systems and the larger environment.
11.0   Discuss the role of the entrepreneur.
12.0   Discuss entrepreneurship as a career choice.
13.0   Identify the basic economic principles of entrepreneurship.
14.0   Describe the importance of professional ethics and legal responsibilities.
15.0   Solve problems using critical thinking skills, creativity and innovation.
16.0   Demonstrate personal money-management concepts, procedures and strategies.
17.0   Use appropriate equipment and supplies safely and correctly.
18.0   Demonstrate competencies identified for a specific program component.

Listed below are the eight career and education planning course standards.

19.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
20.0   Develop skills to locate, evaluate, and interpret career information.
21.0   Identify and demonstrate processes for making short and long term goals.
22.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
23.0   Understand the relationship between educational achievement and career choices/postsecondary options.
24.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
25.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
26.0   Demonstrate knowledge of technology and its application in career fields/clusters.

OPTIONAL

27.0   Demonstrate acquired skills through on-the-job training.

Florida Department of Education
Student Performance Standards

Course Title: **Vocational Employability Skills for Youth and Career Planning**
Course Number: **9001820**
Course Credit: **.5**

Course Description:

This course is designed to develop competencies in employability skills and to provide short-term occupational education for youth being served by Department of Juvenile Justice programs, usually for a duration of four (4) to twelve (12) months. The objective is to provide a foundation of survival skills for a transition into entry-level employment and/or additional on-the-job training.

CTE Standards and Benchmarks
01.0   Demonstrate realistic employment goals. The student will be able to:
01.01   Express personal strengths and weaknesses, including social adjustments and cognitive abilities.
01.02   Match interests and abilities with potential careers.
02.0   Describe human relations skills necessary for success in the workforce. The student will be able to:
02.01   Define punctuality, initiative, courtesy, loyalty, honesty, respect, responsibility, fairness, and trustworthiness.
02.02   Identify and discuss the role of an employee as a team member in the workplace.
02.03   Describe the use of teams in the workplace to increase productivity and product quality.
02.04   Discuss the importance of human relations to success in the workplace.
02.05   Define empathy, compassion, caring, enthusiasm, positive attitude, and self-motivation.
02.06   Explain the importance of working effectively with diverse populations.
02.07   Explain importance of self-management when minimum direction and supervision are given.
02.08   Describe ethical situations in the world of work
02.09   Describe importance and benefits of time management.
02.10   Identify and demonstrate steps necessary for solving problems and making decisions.

	CTE Standards and Benchmarks
	02.11 Analyze future consequences of current decisions.
	02.12 Discuss the value of emotional self-control in the workplace
	02.13 Explain "conflict resolution" and "dispute resolution" techniques and apply to a simulated work related problem.
	02.14 Identify and practice stress management and relaxation techniques.
	02.15 Discuss importance of practicing positive customer service skills.
03.0	Identify types of communication skills necessary for successful employment. The student will be able to:
	03.01 Describe the importance of the proper use of grammar, vocabulary, and diction.
	03.02 Identify the appropriate way to address people.
	03.03 Identify appropriate conversation for work related settings.
	03.04 Describe listening, speaking, and nonverbal skills necessary to determine customer needs.
	03.05 List professional vocabulary appropriate for the work environment
	03.06 Demonstrate ability to communicate in a multicultural setting
	03.07 Identify and define commonly used customer service terms such as complaints, internal and external customers.
	03.08 Demonstrate the ability to listen to, follow, and provide directions
	03.09 Demonstrate the placing/receiving of telephone calls in a businesslike manner.
	03.10 Demonstrate ability to locate, understand, and interpret information found in trade manuals, schedules, charts, diagrams, tables of contents, indexes, labels, and Internet resources.
04.0	Demonstrate leadership and teamwork skills needed to accomplish team goals and objective. The students will be able to:
	04.01 Employ leadership skills to accomplish organizational goals and objectives.
	04.02 Establish and maintain effective working relationships with others in order to accomplish objectives and tasks.
	04.03 Conduct and participate in meetings to accomplish work tasks.
	04.04 Employ mentoring skills to inspire and teach others.
05.0	Use oral and written communication skills in creating, expressing and interpreting information and ideas. The students will be able to:
	05.01 Select and employ appropriate communication concepts and strategies to enhance oral and written communication in the workplace.

	05.02	Locate, organize and reference written information from various sources.
	05.03	Design, develop and deliver formal and informal presentations using appropriate media to engage and inform diverse audiences.
	05.04	Interpret verbal and nonverbal cues/behaviors that enhance communication.
	05.05	Apply active listening skills to obtain and clarify information.
	05.06	Develop and interpret tables and charts to support written and oral communications.
	05.07	Exhibit public relations skills that aid in achieving customer satisfaction.
06.0	Describe the duties and responsibilities of a successful employee. The student will be able to:	
	06.01	Explain how to handle customer inquiries/complaints.
	06.02	Explain how to handle difficult internal and external customers
	06.03	Explain how to interpret policies to internal and external customers.
	06.04	Classify customer services according to nature and characteristics of the activity.
	06.05	Review methods to resolve customer problems through clarifying and explaining policies and procedures.
	06.06	Explain the importance of stress management and relaxation techniques as they relate to job performance.
	06.07	Demonstrate an understanding of gender, age, disability, and cultural courtesy.
	06.08	Describe workplace codes of professional/business conduct.
	06.09	Explain the concepts of integrity, credibility, reliability, and perseverance.
	06.10	List the responsibilities an employer has for his/her employees (ethical, social, legal).
07.0	Demonstrate the competencies of employability and career development –Explain the importance of employability skills and entrepreneurship skills. The student will be able to:	
	07.01	Identify and demonstrate positive work behaviors needed to be employable.
	07.02	Develop personal career plan that includes goals, objectives, and strategies.
	07.03	Examine licensing, certification, and industry credentialing requirements.
	07.04	Maintain a career portfolio to document knowledge, skills, and experience.
	07.05	Evaluate and compare employment opportunities that match career goals.

	07.06	Identify and exhibit traits for retaining employment.
	07.07	Identify opportunities and research requirements for career advancement.
	07.08	Research the benefits of ongoing professional development.
	07.09	Examine and describe entrepreneurship opportunities as a career planning option.
08.0	Use information technology tools. The students will be able to:	
	08.01	Use personal information management (PIM) applications to increase workplace efficiency.
	08.02	Employ technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email, and internet applications.
	08.03	Employ computer operations applications to access, create, manage, integrate, and store information.
	08.04	Employ collaborative/groupware applications to facilitate group work.
09.0	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:	
	09.01	Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
	09.02	Explain emergency procedures to follow in response to workplace accidents.
	09.03	Create a disaster and/or emergency response plan.
10.0	Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment. The student will be able to:	
	10.01	Describe the nature and types of business organizations.
	10.02	Explain the effect of key organizational systems on performance and quality.
	10.03	List and describe quality control systems and/or practices common to the workplace.
	10.04	Explain the impact of the global economy on business organizations.
11.0	Discuss the role of the entrepreneur. The student will be able to:	
	11.01	Define *entrepreneurship*.
	11.02	Research innovations and the names and biographies of famous entrepreneurs, past and present.
	11.03	Discuss the evolution of entrepreneurship.

	11.04	Describe the differences between a product-based business and a service-based business.
	11.05	Identify the contributions of entrepreneurs to the economic growth of the United States.
	11.06	Discuss future prospects for entrepreneurship and its anticipated impact on the economy.
	11.07	Discuss the role of the entrepreneur in his/her local community (e.g., mentoring, philanthropy).
12.0	Discuss entrepreneurship as a career choice. The student will be able to:	
	12.01	Describe reasons for becoming an entrepreneur.
	12.02	Identify characteristics common to successful entrepreneurs; research famous entrepreneurs.
	12.03	Identify the education, aptitudes, and skills recommended for entrepreneurs.
	12.04	Discuss the advantages and disadvantages of self-employment.
	12.05	Discuss entrepreneurship as a personal goal.
	12.06	Assess personal potential for entrepreneurship.
	12.07	Identify career paths in supervisory, management, and small business environments.
13.0	Identify the basic economic principles of entrepreneurship. The student will be able to:	
	13.01	Identify the role of small businesses in the global economy.
	13.02	Define and discuss *profit motive* and its impact on business.
	13.03	Identify the different types of competition and explain the impact of competition on businesses (e.g., direct, indirect, price, non-price, competitive position).
	13.04	Describe the differences between industrial and consumer goods.
	13.05	Define *land*, *labor*, *capital*, and *entrepreneurship* as factors of production.
	13.06	Discuss form, place, time, possession, and information utility.
	13.07	Explain the meaning and causes of scarcity.
	13.08	Identify the components of the Law of Supply and Demand in a free enterprise system.
	13.09	Identify the stages of the product life cycle and the characteristics of each stage.
	13.10	Identify the roles and types of producers, distributors, and services in the current business economy.

CTE Standards and Benchmarks	
13.11	Discuss major fields of business activity (e.g., extractive, subcontracting, manufacturing, wholesaling, retailing, services, cottage industries, urban street sales).
13.12	Discuss the four parts of a business (production, finance, marketing, customer service).
13.13	Identify factors that contribute to the success of a small business.
13.14	Describe the process of starting a small business.
13.15	Explain the procedures for registering a sole proprietorship and obtaining a sales tax identification number.
13.16	Discuss reasons for small business failure; develop an exit strategy and plan.
13.17	Recognize opportunities for small businesses in the global marketplace.
14.0	Describe the importance of professional ethics and legal responsibilities. The student will be able to:
14.01	Evaluate and justify decisions based on ethical reasoning.
14.02	Evaluate alternative responses to workplace situations based on personal, professional, ethical, legal responsibilities, and employer policies.
14.03	Identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace.
14.04	Interpret and explain written organizational policies and procedures.
15.0	Solve problems using critical thinking skills, creativity and innovation. The student will be able to:
15.01	Employ critical thinking skills independently and in teams to solve problems and make decisions.
15.02	Employ critical thinking and interpersonal skills to resolve conflicts.
15.03	Identify and document workplace performance goals and monitor progress toward those goals.
15.04	Conduct technical research to gather information necessary for decision-making.
16.0	Demonstrate personal money-management concepts, procedures, and strategies. The student will be able to:
16.01	Identify and describe the services and legal responsibilities of financial institutions.
16.02	Describe the effect of money management on personal and career goals.
16.03	Develop a personal budget and financial goals.
16.04	Complete financial instruments for making deposits and withdrawals.
16.05	Maintain financial records.

	16.06 Read and reconcile financial statements
	16.07 Research, compare and contrast investment opportunities.
17.0	Use appropriate equipment and supplies safely and correctly. The student will be able to:
	17.01 These student performance standards are job specific and correspond to the job preparatory program in which the student is enrolled.
18.0	Demonstrate competencies identified for a specific program component. The student will be able to:
	18.01 These student performance standards are job specific and correspond to the job preparatory program in which the student is enrolled.
	OPTIONAL
19.0	Demonstrate acquired skills through On-The-Job training. The student will be able to:
	19.01 Display a positive attitude toward a job.
	19.02 Demonstrate job performance skills.
	19.03 Display expected level of productivity.
	19.04 Use evaluations to improve own performance.
	19.05 Identify, organize, plan and allocate resources.
	19.06 Work cooperatively with others.
	19.07 Acquire and use information including using computers.
	19.08 Work effectively within the context of complex interrelationships.
	19.09 Work with a variety of technologies.
	19.10 Perform basic computer operations.
	Listed below are the eight career and education planning course standards: The student will be able to**:**
20.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
21.0	Develop skills to locate, evaluate, and interpret career information.

CTE Standards and Benchmarks
22.0   Identify and demonstrate processes for making short and long term goals.
23.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
24.0   Understand the relationship between educational achievement and career choices/postsecondary options.
25.0   Identify a career cluster and related pathways that match career and education goals.
26.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
27.0   Demonstrate knowledge of technology and its application in career fields/clusters.

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.

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.

Special Notes

The career and education planning course required by Section 1003.4156, Florida Statutes, has been integrated into this course. This course must include career exploration using CHOICES or a comparable cost-effective program and educational planning using the online student advising system known as Florida Academic Counseling and Tracking for Students at the Internet website FACTS.org; and shall result in the completion of a personalized academic and career plan.

*The information appearing after standard #7 is new to this course and allows districts to integrate the middle school Career Exploration and Decision Making course as required by Section 1003.4156, Florida Statutes.

Primary emphasis will be given to the diagnosis of the individual's interest and aptitude, followed by involvement in appropriate occupational competencies, consistent with the individual's education level. This program is designed to allow the institution's career and technical education department in cooperation with the Division of Career and adult Education to develop student performance standards for specific instructional components based upon identified occupational titles in any of the career clusters of Agriculture, Food and Natural Resources; Architecture and Construction; Arts, A/V Technology and Communication; Business, Management and Administration; Education and Training; Finance; Government and Public Administration; Health Science; Hospitality and Tourism; Human Services; Information Technology; Law, Public Safety and Security; Manufacturing; Marketing, Sales and Services; Science, Technology, Engineering and Mathematics (STEM); and Transportation, Distribution and Logistics. This curriculum framework and the adopted student performance standards will be the basis for program operation and program review. The specialized student performance standards will be based upon:

1) Serving the special needs of institution's clients with an average commitment time of four (4) to six (6) months.
2) Organized instruction provided by a qualified instructor.
3) Input from a program advisory committee composed of representatives of business and industry.
4) Documentation for evaluation and accountability purposes.

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 Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

English Language Development ELD Standards Special Notes Section

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Language Arts. 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 online.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular Occupational Completion Point (OCP) or a Modified Occupational Completion Point (MOCP). If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete an OCP/MOCP. The student should work on different competencies and new applications of competencies each year toward completion of the OCP/MOCP. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.

Florida Department of Education
Curriculum Framework

Program Title: **Information & Communications Technology (ICT) Essentials**
Program Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Program Number	9009100
CIP Number	149009100M
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Program Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to provide students with the computer, digital, and information technology skills necessary for success in their future academic and occupational goals. In addition to fundamental computer information, the content includes but is not limited to digital technologies associated with web development, multimedia, word processing, spreadsheet, database, Internet communications, cybersecurity, and computer programming.

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.

Program Structure

This program is a planned sequence of instruction consisting of three course(s).

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009110	Information & Communications Technology (ICT) Essentials 1	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7G WEB DEV 7G	Year
9009120	Information & Communications Technology (ICT) Essentials 2		Year
9009130	Information & Communications Technology (ICT) Essentials 3		Year

Standards

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

01.0   Identify computer components and their functions.
02.0   Demonstrate knowledge of different operating systems.
03.0   Demonstrate an understanding of Internet safety and ethics.
04.0   Demonstrate proficiency using the Internet to locate information.
05.0   Demonstrate proficiency in using word processing software.
06.0   Demonstrate proficiency in using presentation software.
07.0   Demonstrate proficiency in using graphics software.
08.0   Demonstrate appropriate use of email.
09.0   Demonstrate knowledge of safety and privacy practices for online communication.
10.0   Develop and apply fundamental spreadsheet skills.
11.0   Develop and apply database skills.
12.0   Demonstrate skill in using video editing software and equipment.
13.0   Demonstrate proficiency in using audio editing software (e.g., Audacity).
14.0   Demonstrate proficiency locating, gathering, and preparing textual, graphical, and image-based web content.
15.0   Use Web 2.0 or Internet-based collaborative technology (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to facilitate a web development or research project.
16.0   Demonstrate an understanding of computer networks.
17.0   Demonstrate proficiency in webpage development.
18.0   Demonstrate proficiency in game development.
19.0   Demonstrate proficiency in basic programming.

Florida Department of Education
Student Performance Standards

Course Title:	**Information & Communications Technology (ICT) Essentials 1**
Course Number:	**9009110**
Course Length:	**Year**
Grade:	**6-8**

Course Description:

This course introduces students to core concepts associated with computers and their use. The content includes hands-on opportunities to explore various software applications.

CTE Standards and Benchmarks
01.0   Identify computer components and their functions. The student will be able to:
01.01   Describe what defines a computer and ways a computer can be used.
01.02   Identify the internal components of a computer (e.g., case, CPU, RAM, power supply, hard drive, motherboard, expansion cards, cabling).
01.03   Identify and know how to connect various computer input devices (e.g., mouse, keyboard, phone, camera, scanner, microphone, game controller, stylus, barcode reader finger print scanner, GPS device, touch pad, graphics tablet) and describe their use.
01.04   Identify and know how to connect various computer output devices (e.g., monitor, printer, projector, speakers, headphones) and describe their use.
01.05   Identify and know how to connect various storage devices (e.g., flash drive, external hard drive (SSD, network drive), memory card, discs, cloud).
02.0   Demonstrate knowledge of different operating systems. The student will be able to:
02.01   Compare and contrast various operating systems used in a computer and mobile devices (i.e., Windows, OS (Apple), UNIX, Android, iOS).
02.02   Describe and use conventional file naming conventions.
02.03   Demonstrate proficiency with file management tasks (e.g., folder creation, file creation, backup, copy, delete, open, save).
02.04   Be able to identify file types by extension (e.g., .doc, .txt, .wav, xls).
02.05   Demonstrate proficiency in using gadgets, icons, and taskbars and other pre-loaded operating system programs. (e.g., calculator, text editor, clock, volume controls, adding icons and shortcuts to taskbar and shortcut menus).
03.0   Demonstrate an understanding of Internet safety and ethics. The student will be able to:

	03.01	Describe risks associated with social networking sites (e.g., FaceBook, Snapchat, Instagram, Twitter) and ways to reduce these risks.
	03.02	Define "privacy" and relate it to the term "digital footprint".
	03.03	Practice cybersafety techniques to protect your personal information when using internet searches, email, chat rooms, and social network websites.
	03.04	Describe cyberbullying, its impact on perpetrators and victims and ways to respond.
	03.05	Describe risks associated with sexting (including legal issues, social consequences), and discuss methods for response, reporting, and prevention.
	03.06	Describe risks associated with online gaming, and identify ways to reduce these risks.
	03.07	Discuss issues related to downloading music or videos from the Internet, including unethical vs. illegal actions.
	03.08	Compare and contrast rules for copyright and fair use, especially in relation to using online resources for school and educational purposes.
	03.09	Distinguish between viruses and malware and discuss their impact on personal privacy and computer operation.
	03.10	Describe common threats used to spread malware and viruses, including phishing, pharming, Trojans, spyware, malicious sites, "free" downloads.
	03.11	Perform an antivirus scan on a computer system to check for viruses and malware.
	03.12	Describe strong password practices.
	03.13	Practice cyber safety techniques to protect your computer system when using Internet searches, email and social network websites.
	03.14	Identify security issues related to mobile phones, including personal information compromised if a phone is lost or stolen.
	03.15	Adhere to Acceptable Use Policies when accessing the Internet.
04.0	Demonstrate proficiency using the Internet to locate information. The student will be able to:	
	04.01	Identify and use web terminology (WWW, Web Browser, Internet, Web Server, Web Page, Address Bar, Hyperlinks, Navigation Buttons, Search Bar, Bookmarks/Favorites, Tab, Downloading, Plug-ins, Social Media Plug-ins).
	04.02	Define Universal Resource Locators (URLs) and associated protocols (e.g., http, ftp, telnet, mailto).
	04.03	Compare and contrast the types of Internet domains (e.g., .com, .org, .edu, .gov, .net, .mil).
	04.04	Demonstrate proficiency using search engines, including Boolean search techniques.
	04.05	Demonstrate proficiency using various web tools (e.g., downloading of files, transfer of files, telnet, PDF).
	04.06	Compare and contrast the roles of web servers and web browsers.

	04.07	Evaluate online information for relevance, credibility and quality using basic guidelines and indicators (e.g. authority, affiliation, purpose, bias, date).
	04.08	Identify and apply copyright and fair use guidelines, and explain plagiarism as an ethical and legal violation.
	04.09	Incorporate results from Internet searches into a research project (e.g., report, summary).
	04.10	Download images as needed to support a research project, complying with copyright notices.
	04.11	Properly cite Internet sources used to obtain information for a research project.
05.0	05.0	Demonstrate proficiency in using word processing software. The student will be able to:
	05.01	Describe the general functions of word-processing software, including benefits for document creation, commonly used word-processing applications.
	05.02	Define the term "cloud computing," and explain benefits of creating and storing word-processing documents online.
	05.03	List and describe common word processor interface tools and features.
	05.04	Identify common keyboard shortcuts used in word processors, and explain the benefits of using shortcuts.
	05.05	Format the page setup of a document, including margins, line spacing, indents, headers vs. footers, orientation.
	05.06	Explain printing options in a word processor, including shrink-to-fit, 2-sided printing, and document orientation.
	05.07	Copy, paste and move text within a document using mouse, menu and keyboard techniques.
	05.08	Copy, paste and move text among multiple documents using mouse, menu and keyboard techniques.
	05.09	Modify document view settings to display close-up, single and multiple pages.
	05.10	Define the term "format" as it relates to word processing.
	05.11	Format text using styles and font tools in a word processor.
	05.12	Format a document using multi-level heading styles to enable an outline view (e.g. document map, navigation pane) in a word processor.
	05.13	Create a table of contents using auto-generation tools and techniques in a word processor.
	05.14	Insert page breaks in a document.
	05.15	Create source citations and/or a bibliography in a document.
	05.16	Insert a current date and time stamp into a document.

	05.17	Use word processor tools to determine the number of pages, words and characters in a document.
	05.18	Use spell check, grammar check, thesaurus, and find & replace to edit a document.
	05.19	Insert and modify sizing of images in a word-processing document.
	05.20	Position an image relative to text in a document, using various text-wrapping options (inline, square, tight).
	05.21	Use word-processing drawing tools to create pre-formatted shapes that enhance a document's content.
	05.22	Use word-processor drawing tools to create a visual representation of information (e.g. SmartArt), such as diagram, flow chart.
	05.23	Apply a column layout to text in a document as appropriate for the content (e.g., article, newsletter).
	05.24	Apply simple numbered and bulleted lists in a document to make content easier to read and understand.
	05.25	Format numbered and bulleted lists to produce multi-level outline in a document.
	05.26	Create a simple brochure and/or flyer using a template.
	05.27	Create a table in a word-processing document, and enter and move data in the table.
	05.28	Convert a body of text into a table structure in a document to make content easier to read and understand.
	05.29	Define "collaboration" and explain ways that users can collaborate on word-processing documents, including installed software vs. cloud-based software, real-time collaboration, auto save, sharing tools, revision history.
	05.30	Use the translation tool in a word processor to translate text in a document from English into another language, and vice versa.
	05.31	Add comments to a document when reviewing and/or editing content.
	05.32	Revise a document using editing tools (e.g. Track Changes) in a word processor, and accept or reject changes as appropriate.
06.0		Demonstrate proficiency in using presentation software. The student will be able to:
	06.01	Describe presentation software and the ways it can be used.
	06.02	Create and/or modify a "slide master" or template to apply a consistent appearance to a presentation.
	06.03	Add and format titles, subtitles and talking points in presentation slides.
	06.04	Add slide numbers and/or date and time codes to presentation slides.
	06.05	Insert and format images/graphics in presentation slides.
	06.06	Insert new or duplicate slides in a presentation.

	06.07	Modify slide transitions in a presentation to include animation.
	06.08	Insert and/or modify sound settings and timing in a presentation.
	06.09	Modify the sequence of slides in a presentation.
	06.10	Produce a presentation that includes text, graphics and images, and present it.
	06.11	Modify a presentation's setup to repeat (i.e., loop) the presentation continuously.
07.0	Demonstrate proficiency in using graphics software. The student will be able to:	
	07.01	Describe graphics software and the ways it can be used.
	07.02	Compare and contrast vector and raster images.
	07.03	Identify image file formats for photos and graphical art (e.g., TIFF, BMP, PSD, EPS, JPEG, GIF, PNG), and specify which formats are supported on the web.
	07.04	Define terms related to the creation and display of graphical images (e.g., raster, vector, transparency, opacity, cropping, lasso, magic wand, marquee, canvas size, flattened, blur, dodge, sharpen, staking order, free transform, lossless, adjustments, move, clone, zoom, layers, filter, distort).
	07.05	Create images with effects using different tools, brushes, adjustments and filters available in graphics software.
	07.06	Copy and paste graphical images.
	07.07	Modify shapes and colors in a graphical image.
	07.08	Save and export a digital photograph in a format that provides the best image quality and file size for Internet use.
	07.09	Create a progressive slide presentation using graphical design/layout template features (e.g., SmartArt) and animated transitions.
	07.10	Use a portable digital video device (e.g., mobile phone, flip camera) or similar online tools to shoot video files, and transfer them to a computer.
	07.11	Use video-editing software to produce a slide show or movie.
	07.12	Create a multimedia presentation that incorporates edited video, animation, music and/or narration, and that applies principles of good design, smooth transitions and effective message delivery.
08.0	Demonstrate appropriate use of email. The student will be able to:	
	08.01	Define "email "and describe the functions and advantages as a form of communication.
	08.02	Identify components of an email message.
	08.03	Explain the format of an email address (i.e., user name, @ symbol, domain).

08.04	Attach a file to an email message.
08.05	Reply to and forward an email message to one or more addressees.
08.06	Use the Internet to perform email activities (i.e., web-based email).
08.07	Identify the appropriate use of email and demonstrate related email etiquette.
08.08	Perform email organization and cleanup (e.g., trash, flags, create folders).

Florida Department of Education
Student Performance Standards

Course Title: Information & Communications Technology (ICT) Essentials 2
Course Number: 9009120
Course Length: Year
Grade: 6-8

Course Description:

This course builds on the previous course and provides greater depth and more complex concepts and the skills/knowledge to master these concepts. Students will be provided opportunities to extend their skills with various software applications by creating more complex documents and using more complex functions.

CTE Standards and Benchmarks
09.0   Demonstrate knowledge of safety and privacy practices for online communication. The student will be able to:
09.01 Define "privacy" and relate it to the term "digital footprint."
09.02 Describe the risks of communicating on social networking sites (e.g. Facebook, Twitter, Instagram) and identify ways to communicate safely.
09.03 Distinguish between copyright infringement, plagiarism and fair use in an educational setting and in relation to school projects, especially with music and pictures.
09.04 Describe online communication practices that contribute to cyberbullying.
09.05 Practice safe online communication techniques with Internet searches, email, chat rooms, and other social network websites.
09.06 Follow an Acceptable Use Policy (AUP) when accessing the Internet.
10.0   Develop and apply fundamental spreadsheet skills. The student will be able to:
10.01 Define "spreadsheet" and describe ways it may be used.
10.02 Identify the parts of the spreadsheet display, including cells, columns and rows, cell references, cell range.
10.03 Create and navigate through multiple spreadsheets in a file.
10.04 Insert and format various types of data (text, numeric, date/time) in a spreadsheet cells.

	10.05	Select multiple cells, including adjacent and non-adjacent ranges, using mouse and keyboard techniques.
	10.06	Cut, copy, and paste information from one or more cells to another part of the spreadsheet.
	10.07	Use the undo and redo tools in a spreadsheet.
	10.08	Apply and modify cell formatting for currency, date and percentage values.
	10.09	Resize column width and row height in a spreadsheet.
	10.10	Insert and delete columns and rows in a spreadsheet.
	10.11	Merge and unmerge cells in a spreadsheet.
	10.12	Apply shading and borders to a spreadsheet.
	10.13	Describe the purpose of a table and how it relates to a spreadsheet.
	10.14	Create and print a table and/or range that displays and sums the values of different data types.
	10.15	Identify various types of charts (e.g., line, bar, pie, scatter) and common chart components (e.g., vertical axis, horizontal axis, legend), and explain when to use each chart type.
	10.16	Create a chart from existing data and format the pieces (data set), change the background color, and add appropriate titles and a legend.
	10.17	Use the auto sum function to calculate the values of multiple cells.
	10.18	Insert common functions (SUM, AVERAGE, COUNT, MAX, MIN) and simple mathematical formulas which include addition, subtraction, multiplication, or division into a spreadsheet.
	10.19	Distinguish between absolute and relative cell references in a spreadsheet.
	10.20	Use the sort function to organize information numerically or alphabetically, including multiple levels of sorting.
	10.21	Use the filter function to display spreadsheet data based on specific criteria.
	10.22	Use conditional formatting to highlight text in a spreadsheet.
11.0		Develop and apply database skills. The student will be able to:
	11.01	Define database and describe real-world uses (e.g. search engines, schools, drivers licenses & car registrations, hospitals, retail, law enforcement).
	11.02	Distinguish between databases and spreadsheets.
	11.03	Identify advantages of using a database instead of alternatives (e.g., spreadsheets, electronic documents, paper).

CTE Standards and Benchmarks
11.04   Define "Big Data" and describe how it is used in advertising.
11.05   Identify the components of a database.
11.06   Distinguish between fields and records in a database.
11.07   Describe the basic data types and formats used in a database.
11.08   Distinguish between a table and a query.
11.09   Identify database keys, including primary and foreign.
11.10   Identify the relationships between tables in databases (i.e., one-to-one, one-to-many, many-to-many).
11.11   Distinguish between a query and a report.
11.12   Identify various report types.
11.13   Describe Structured Query Language (SQL) and discuss its use with databases.
11.14   Identify and compare various database applications, including Microsoft Access, MySQL, Oracle.
11.15   Create a database table that uses multiple data types.
11.16   Add, Edit, and Delete records from a database table.
11.17   Sort records in a database query or table.
11.18   Troubleshoot common database errors, including data type errors, query syntax errors.
11.19   Create a basic select query in one table.
11.20   Create an action query to manipulate data.
11.21   Create a query using primary and foreign keys.
11.22   Create a simple table join.
11.23   Import and export data from a database into a spreadsheet.
11.24   Create relevant reports from a database.
12.0   Demonstrate skill in using video editing software and equipment. The student will be able to:

CTE Standards and Benchmarks
12.01 Demonstrate ability to operate a video camera (e.g., Flip camera, cell phone).
12.02 Write storyboards to depict a one minute video segment.
12.03 Determine appropriate lighting needs.
12.04 Create video shots sufficient to produce a one minute video.
12.05 Identify the functions and benefits of the digital video software interface.
12.06 Demonstrate ability to edit, cut, erase, and insert video.
12.07 Edit video as needed to achieve desired message and length.
12.08 Describe a first complete run-through of the video production process.
12.09 Characterize the qualities of effective communication in a completed video.
12.10 Upload finished video files to a website.
13.0 Demonstrate proficiency in using audio editing software (e.g., Audacity). The student will be able to:
13.01 Identify the functions and benefits of the audio editing software interface.
13.02 Demonstrate ability to edit, cut, erase, and insert audio.
13.03 Edit audio as needed to achieve desired message and length.
13.04 Prepare a 30 second to 1 minute audio commercial project.
14.0 Demonstrate proficiency locating, gathering, and preparing textual, graphical, and image-based web content. The student will be able to:
14.01 Define the elements of a webpage and what makes a good webpage.
14.02 Describe effective text and image content for webpages based on how visitors use the web.
14.03 List guidelines and conventions for effective text on webpage.
14.04 Explain the inverted pyramid model of newspaper journalism and how it applies to web content.
14.05 Use word-processing software to create effective written content for a webpage.
14.06 Create and/or edit message-driven image content for a webpage using graphics software.

CTE Standards and Benchmarks	
14.07	Access graphics through various recourses (e.g., scanner, digital camera, CD-ROM, clipart, copyright-free online graphics).
14.08	Plan the content and design of a basic webpage using strategies for effective Web communication, including brainstorming, determining audience, choosing content and media types, using white space.

Florida Department of Education
Student Performance Standards

Course Title: **Information & Communications Technology (ICT) Essentials 3**
Course Number: **9009130**
Course Length: **Year**
Grade: **6-8**

Course Description:

This course builds on the previous two courses and provides greater depth and more complex concepts and the skills/knowledge to master these concepts. In addition to working with network concepts, students will be provided opportunities to further extend their skills with various software applications by creating more complex documents and using more complex functions and technologies. Students will continue their exposure to computer programming and the creation of more complex computer programs. For the programming instruction, the use of Alice from Carnegie Mellon University is encouraged as it is a highly engaging program, includes instructional materials, and is available at no cost.

CTE Standards and Benchmarks
15.0 Use Web 2.0 or Internet-based collaborative technology (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to facilitate a web development or research project. The student will be able to:
15.01 Create and use a collaborative environment for communicating and sharing among project team members.
15.02 Create and use a social media page (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to share and publish project components (e.g., content, images, graphics, videos) for gauging visitor reaction and obtaining feedback.
16.0 Demonstrate an understanding of computer networks. The student will be able to:
16.01 Define "network" and give examples of networks used at home, school, and work.
16.02 Compare types of networks, including LAN, WAN, MAN, VPN, intranet, extranet, the Internet.
16.03 Compare common network topologies, including bus, star, ring, mesh.
16.04 Compare various network models and their advantages, including client/server, mainframe/terminal, peer-to-peer.
16.05 Compare various methods and media for network connections, including broadband, wireless, Bluetooth, cellular, satellite.
16.06 Describe the functions of various network hardware devices, including NIC, hub, switch, router, bridge, gateway, access point.
16.07 Describe the purpose of protocols, and identify the protocols commonly used in networks, including TCP/IP, DHCP, DNS, HTTP, FTP, IMAP, POP, SMTP.

	16.08	Describe the purpose and function of IP addressing and distinguish between public and private IP addresses.
	16.09	Describe the OSI reference model and its layers, including tracing the flow of data between two network nodes through the OSI layers.
17.0	Demonstrate proficiency in webpage development. The student will be able to:	
	17.01	Identify website domains, and relate a site's domain to its purpose.
	17.02	Relate basic components of a webpage (e.g. color, space, written content, typography, images, links, multimedia) to aesthetic, functional and/or usable design principals.
	17.03	Define aesthetic design, and explain how aesthetics can affect a visitors' perception of a website's information.
	17.04	Demonstrate knowledge of color wheel concepts and effective use of color on a website.
	17.05	Compare functional and usable design principles, and explain how usability can affect a website's success.
	17.06	Critique the aesthetic design, usability and accessibility of sample websites.
	17.07	Define multimedia, and identify its role in webpage interactivity.
	17.08	Explain the primary steps of the website planning process.
	17.09	Apply the website planning process to plan the design for basic website.
	17.10	Build the site navigation scheme for a website.
	17.11	Compare webpage creation using an HTML text editor to using a graphical user interface (GUI) editor.
	17.12	Compare website creation using an online site builder, an offline site builder and a content management system (CMS).
	17.13	Modify an existing webpage template to create an effective look and feel for a website.
	17.14	Create a website using a template.
	17.15	Define "HTML (Hypertext Markup Language)" and related terms, including tag vs. element, container vs. empty tag, block-level vs. inline element, attribute value, semantic tag.
	17.16	Identify HTML elements required to create webpage structure.
	17.17	Create webpages using basic HTML tags (e.g., headings, lists, character styles, text alignment, tables, comments).
	17.18	Use HTML to create hyperlinks to external sites.

CTE Standards and Benchmarks	
17.19	Use HTML to insert common image file formats into webpages, and use an image as a hyperlink.
17.20	Explain Cascading Style Sheet (CSS) technology.
17.21	Apply CSS styles to an HTML page.
17.22	Create and/or edit animation files, and integrate them into a webpage.
17.23	Create and/or edit video files, and integrate them into a webpage.
17.24	Use Dynamic HTML (DHTML) to enhance webpage interactivity.
17.25	Create and use a wiki or similar tool for collaborating among project team members.
17.26	Create and use a social media page (e.g., Facebook, Wimba, Edmodo) and/or a blog to share content and collaborate on projects.
17.27	Review webpage content, verify copyright restrictions, and create meta-data before publishing a site to the internet.
17.28	Test webpages for display, functionality, and accessibility before publishing a site to the Internet.
17.29	Validate webpage code using W3C validation tools before publishing a site to the Internet.
17.30	Describe network issues relating to websites, including bandwidth, compression, streaming, web hosting.
17.31	Explain the purpose of File Transfer Protocol (FTP) in accessing information on the Internet.
17.32	Publish a website using FTP.
17.33	Describe website security methods, including secure server vs. unsecured served, SSL, SSH, encryption.
18.0	Demonstrate proficiency in game development. The student will be able to:
18.01	Describe the role of games in modern society (e.g., education, task training, social networking, therapy, recreation).
18.02	Identify various types of games (e.g., chance, skill, knowledge, role-playing, and storytelling).
18.03	Identify the steps of the design process for creating a game.
18.04	Apply the design process to solving a problem.
18.05	Analyze (deconstruct) existing games.
18.06	Identify the tools and skills needed for creating games.

CTE Standards and Benchmarks	
18.07	Identify design criteria and constraints.
18.08	Create storyboards to model a game's program flow and functionality.
18.09	Identify the programmer's role in creating games.
18.10	Identify common programming languages and applications used to create computer games.
18.11	Compare sequential, iteration (loop) and selection programming structures.
18.12	Define the term algorithm (i.e., a set of repeatable steps) and how it applies to problem solving.
18.13	Create an algorithm to solve a problem or complete a task.
18.14	Use pseudo-code to model a game program's flow.
18.15	Define logic errors and identify them in a game program or model.
18.16	Explain the types and uses of variables in game programming.
18.17	Describe basic Boolean concepts, including logical operators, order of precedence, expressions.
18.18	Describe the use of events, event handlers and functions in game programming.
18.19	Describe the use of parameters and arguments in game programming.
18.20	Describe the use of objects, classes and instances in game programming.
18.21	Describe the use of properties and methods with objects in game programming.
18.22	Write appropriate code to create a simple game using structured programming.
18.23	Test and evaluate the game program you created.
18.24	Modify the game program as needed to solve a problem.
18.25	Create an animated object (i.e., sprite) to be used in a game program.
18.26	Use programming code to control the behavior of an animated object (i.e., sprite) in a game program.
19.0	Demonstrate proficiency in basic programming. The student will be able to:
19.01	Define "programming" and discuss its role in computing.
19.02	Explain the binary representation of data and programs in computers.

CTE Standards and Benchmarks	
19.03	Distinguish among the three types of programming languages (machine, assembly, high-level), and give examples.
19.04	Compare and contrast languages that are usually compiled (e.g., C++, Java) and interpreted (e.g., JavaScript, Python).
19.05	Describe the structure of a simple program, and explain why sequencing is important.
19.06	Write a program design document using pseudo-code that shows program flow.
19.07	Explain strategies used in problem-solving, and relate them to computer programming.
19.08	Define the term "algorithm," and explain how it relates to problem-solving.
19.09	Explain the three types of programming errors (i.e., logic, syntax, runtime), and describe the forms of testing that can be used to locate and debug errors.
19.10	Solve a problem using logic by planning a strategy, designing and testing a hypothesis, and/or creating a set of step-by-step instructions to perform a task.
19.11	Define "structured programming" and discuss the advantages of this approach.
19.12	Define the three main programming control structures used in structured programming: sequential, selection (decision), and iteration (loops).
19.13	Describe iterative programming structures (e.g., while, do/while) and how they are used in programming.
19.14	Describe selection programming structures (e.g., if/then, else) and explain the logic used for if statements.
19.15	Write a simple program in pseudo-code that uses structured programming to solve a problem.
19.16	Explain the types and uses of variables in programming.
19.17	Explain basic object-oriented concepts.
19.18	Describe fundamental Boolean concepts, including Boolean algebra, operators, logic.
19.19	Create animated objects using a high-level programming environment (e.g., Alice, Greenfoot) to control their behavior.
19.20	Create a simple program that uses animated objects.
19.21	Convert a simple program from pseudo-code into a common high-level programming environment (e.g. Alice, Greenfoot).
19.22	Troubleshoot and debug errors in code.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

FBLA and BPA 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 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.

Course Title: **Coding Fundamentals**
Course Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Course Number	9009200
CIP Number	0511020109
Grade Level	6-8
Standard Length	Semester/Year
Teacher Certification	Refer to the **Course/Program Structure** section.
CTSO	FBLA, TSA, BPA

Purpose

The purpose of this course is to assist Information Technology students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the career cluster. The content includes but is not limited to foundational knowledge and skills related to computer coding and software development. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course/Program Structure

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 course structure:

Course Number	Course Title	Teacher Certification	Length
9009200	Coding Fundamentals	BUS ED 1@2 COMPU SCI 6 INFO TECH 7G WEB DEV 7G COMP PROG 7G	Semester/Year

Standards:

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

01.0   Demonstrate proficiency using specialized computer coding software.
02.0   Develop an awareness of programming languages.
03.0   Demonstrate proficiency using common software applications.
04.0   Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
05.0   Demonstrate comprehension and communication.
06.0   Demonstrate knowledge of different operating systems.
07.0   Demonstrate proficiency in basic programming.

Florida Department of Education
Student Performance Standards

Course Title: **Coding Fundamentals**
Course Number: **9009200**
Course Length: **Year**

CTE Standards and Benchmarks
01.0   Demonstrate proficiency using specialized computer coding software.   The student will be able to:
01.01   Use specialized computer coding software to solve problems.
01.02   Demonstrate proficiency using specialized computer software (e.g., Swift, Python).
02.0   Develop an awareness of programming languages.   The student will be able to:
02.01   Identify programming language design approaches.
02.02   Explain the components of programming languages.
02.03   Examine connections between elements of mathematics and computer science including binary numbers, logic, sets, and functions.
03.0   Demonstrate proficiency of using common software applications.   The student will be able to:
03.01   Compare and contrast the appropriate use of various software applications.
03.02   Demonstrate proficiency in the use of various software applications.
03.03   Explain why different file types exist (e.g., formats for word processing, images, music, and three-dimensional drawings).
03.04   Identify the kinds of content associated with different file types.
04.0   Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance. The student will be able to:
04.01   Develop keyboarding skills to enter and manipulate text and data.
04.02   Describe and use current and emerging computer technology and software to perform personal and business related tasks.
04.03   Perform a variety of operations such as sorting, filtering, and searching in a database to organize and display information in a variety of ways such as number formats (e.g., scientific notation, percentages, and exponents) charts, tables and graphs.
05.0   Demonstrate comprehension and communication.   The student will be able to:
05.01   Use listening, speaking, telecommunication and nonverbal skills and strategies to communicate effectively.

CTE Standards and Benchmarks	
05.02	Organize ideas and communicate oral and written messages.
05.03	Collaborate with individuals and teams to complete tasks and solve information technology problems.
05.04	Demonstrate an awareness of project management concepts and tools.
05.05	Demonstrate an ability to communicate appropriately through various online tools.
05.06	Recognize that more than one algorithm can solve a given problem.
05.07	Create a program that implements an algorithm to achieve a given goal, individually and collaboratively.
06.0 Demonstrate knowledge of different operating systems. The student will be able to:	
06.01	Compare and contrast various operating systems used in a computer and mobile devices (i.e., Windows, OS (Apple), UNIX, Android, iOS).
06.02	Demonstrate proficiency in using gadgets, icons, and task bars and other pre-loaded operating system programs (e.g., calculator, text editor, clock, volume controls, adding icons and shortcuts to task bar and shortcut menus).
06.03	Use iterative development and debugging to explore the problem domain.
07.0 Demonstrate proficiency in basic programming. The student will be able to:	
07.01	Describe the structure of a simple program, and explain why sequencing is important.
07.02	Define the term "algorithm," and explain how it relates to problem-solving.
07.03	Describe iterative programming structures (e.g., while, do/while) and how they are used in programming.
07.04	Describe selection programming structures (e.g., if/then, else) and explain the logic used for if statements.
07.05	Explain the types and use of variables in programming.
07.06	Write a simple program in pseudo-code that used structured programming to solve a problem.
07.07	Troubleshoot and debug errors in code.
07.08	Create, modify, and use a database (e.g., define field formats, adding new records, manipulate data) to analyze data and propose solutions for a task/problem, individually and collaboratively.

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.

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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.

Career and Technical Student Organization (CTSO)

FBLA, TSA and BPA are the inter-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

This course provides foundational knowledge toward SOC codes 15-1132.00 Software Developers, Applications and 15-1131.00 Computer Programmers.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Exploring Information Technology Careers
Course Type: Orientation/Exploratory
Career Cluster: Information Technology

	Secondary – Middle School
Course Number	9009350
CIP Number	149009350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Information Technology career cluster. The content includes but is not limited to terminology, careers, history, required skills, and technologies associated with pathways comprising the Information Technology career cluster. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009350	Exploring Information Technology Careers	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7 G WEB DEV 7 G DIGI MEDIA 7 G CYBER TECH 7 G COMP PROG 7 G	Semester

Standards

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

01.0   Demonstrate an understanding of the Network Systems career pathway.
02.0   Demonstrate an understanding of the Information Support and Services career pathway.
03.0   Demonstrate an understanding of the Web and Digital Communications career pathway.
04.0   Demonstrate an understanding of the Programming and Software Development career pathway.
05.0   Apply leadership and communication skills.
06.0   Describe how information technology is used in the Information Technology career cluster.
07.0   Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: **Exploring Information Technology Careers**
Course Number: **9009350**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Information Technology career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Information Technology career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Network Systems career pathway. The student will be able to:
01.01   Define and use proper terminology associated with the Network Systems career pathway.
01.02   Describe some of the careers available in the Network Systems career pathway.
01.03   Identify common characteristics of the careers in the Network Systems career pathway.
01.04   Research the history of the Network Systems career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the Network Systems career pathway.
01.06   Describe technologies associated in careers within the Network Systems career pathway.
02.0   Demonstrate an understanding of the Information Support and Services career pathway. The student will be able to:
02.01   Define and use proper terminology associated with the Information Support and Services career pathway.
02.02   Describe some of the careers available in the Information Support and Services career pathway.
02.03   Identify common characteristics of the careers in the Information Support and Services career pathway.
02.04   Research the history of the Information Support and Services career pathway and describe how the careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the Information Support and Services career pathway.

CTE Standards and Benchmarks	
	02.06 Describe technologies associated in careers within the Information Support and Services career pathway.
03.0	Demonstrate an understanding of the Web and Digital Communications career pathway. The student will be able to:
	03.01 Define and use proper terminology associated with the Web and Digital Communications career pathway.
	03.02 Describe some of the careers available in the Web and Digital Communications career pathway.
	03.03 Identify common characteristics of the careers in the Web and Digital Communications career pathway.
	03.04 Research the history of the Web and Digital Communications career pathway and describe how the careers have evolved and impacted society.
	03.05 Identify skills required to successfully enter any career in the Web and Digital Communications career pathway.
	03.06 Describe technologies associated in careers within the Web and Digital Communications career pathway.
04.0	Demonstrate an understanding of the Programming and Software Development career pathway. The student will be able to:
	04.01 Define and use proper terminology associated with the Programming and Software Development career pathway.
	04.02 Describe some of the careers available in the Programming and Software Development career pathway.
	04.03 Identify common characteristics of the careers in the Programming and Software Development career pathway.
	04.04 Research the history of the Programming and Software Development career pathway and describe how the careers have evolved and impacted society.
	04.05 Identify skills required to successfully enter any career in the Programming and Software Development career pathway.
	04.06 Describe technologies associated in careers within the Programming and Software Development career pathway.
05.0	Apply leadership and communication skills. The student will be able to:
	05.01 Discuss the establishment and history of the FBLA/BPA student organizations.
	05.02 Identify the characteristics and responsibilities of organizational leaders.
	05.03 Demonstrate parliamentary procedure skills during a meeting.
	05.04 Participate on a committee which has an assigned task and report to the class.
	05.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	05.06 Use a computer to assist in the completion of a project related to the Information Technology career cluster.
06.0	Describe how information technology is used in the Information Technology career cluster. The student will be able to:
	06.01 Identify information technology (IT) careers in the Information Technology career cluster, including the responsibilities, tasks and skills they require.

CTE Standards and Benchmarks	
06.02	Relate information technology project management concepts and terms to careers in the Information Technology career cluster.
06.03	Manage information technology components typically used in professions of the Information Technology career cluster.
06.04	Identify security-related ethical and legal IT issues faced by professionals in the Information Technology career cluster.
07.0	Use information technology tools. The student will be able to:
07.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Information Technology career cluster.
07.02	Use e-mail clients to send simple messages and files to other Internet users.
07.03	Demonstrate ways to communicate effectively using Internet technology.
07.04	Use different types of web search engines effectively to locate information relevant to the Information Technology career cluster.

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.

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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.

Florida Department of Education
Curriculum Framework

Course Title: Exploring Information Technology Careers and Career Planning
Course Type: Orientation/Exploratory
Career Cluster: Information Technology

Secondary – Middle School	
Course Number	9009360
CIP Number	149009360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Information Technology career cluster. The content includes but is not limited to terminology, careers, history, required skills, and technologies associated with pathways comprising the Information Technology career cluster. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009360	Exploring Information Technology Careers and Career Planning	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7 G WEB DEV 7 G DIGI MEDIA 7 G CYBER TECH 7 G COMP PROG 7 G	Semester

Standards

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

01.0   Demonstrate an understanding of the Network Systems career pathway.
02.0   Demonstrate an understanding of the Information Support and Services career pathway.
03.0   Demonstrate an understanding of the Web and Digital Communications career pathway.
04.0   Demonstrate an understanding of the Programming and Software Development career pathway.
05.0   Apply leadership and communication skills.
06.0   Describe how information technology is used in the Information Technology career cluster.
07.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

08.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
09.0   Develop skills to locate, evaluate, and interpret career information.
10.0   Identify and demonstrate processes for making short and long term goals.
11.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
12.0   Understand the relationship between educational achievement and career choices/postsecondary options.
13.0   Identify a career cluster and related pathways that match career and education goals.
14.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
15.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Exploring Information Technology Careers and Career Planning**
Course Number: **9009360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Information Technology career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Information Technology career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Network Systems career pathway. The student will be able to:
01.01 Define and use proper terminology associated with the Network Systems career pathway.
01.02 Describe some of the careers available in the Network Systems career pathway.
01.03 Identify common characteristics of the careers in the Network Systems career pathway.
01.04 Research the history of the Network Systems career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Network Systems career pathway.
01.06 Describe technologies associated in careers within the Network Systems career pathway.
02.0   Demonstrate an understanding of the Information Support and Services career pathway. The student will be able to:
02.01 Define and use proper terminology associated with the Information Support and Services career pathway.
02.02 Describe some of the careers available in the Information Support and Services career pathway.
02.03 Identify common characteristics of the careers in the Information Support and Services career pathway.
02.04 Research the history of the Information Support and Services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Information Support and Services career pathway.

CTE Standards and Benchmarks	
	02.06 Describe technologies associated in careers within the Information Support and Services career pathway.
03.0	Demonstrate an understanding of the Web and Digital Communications career pathway. The student will be able to:
	03.01 Define and use proper terminology associated with the Web and Digital Communications career pathway.
	03.02 Describe some of the careers available in the Web and Digital Communications career pathway.
	03.03 Identify common characteristics of the careers in the Web and Digital Communications career pathway.
	03.04 Research the history of the Web and Digital Communications career pathway and describe how the careers have evolved and impacted society.
	03.05 Identify skills required to successfully enter any career in the Web and Digital Communications career pathway.
	03.06 Describe technologies associated in careers within the Web and Digital Communications career pathway.
04.0	Demonstrate an understanding of the Programming and Software Development career pathway. The student will be able to:
	04.01 Define and use proper terminology associated with the Programming and Software Development career pathway.
	04.02 Describe some of the careers available in the Programming and Software Development career pathway.
	04.03 Identify common characteristics of the careers in the Programming and Software Development career pathway.
	04.04 Research the history of the Programming and Software Development career pathway and describe how the careers have evolved and impacted society.
	04.05 Identify skills required to successfully enter any career in the Programming and Software Development career pathway.
	04.06 Describe technologies associated in careers within the Programming and Software Development career pathway.
05.0	Apply leadership and communication skills. The student will be able to:
	05.01 Discuss the establishment and history of the FBLA/BPA student organization.
	05.02 Identify the characteristics and responsibilities of organizational leaders.
	05.03 Demonstrate parliamentary procedure skills during a meeting.
	05.04 Participate on a committee which has an assigned task and report to the class.
	05.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	05.06 Use a computer to assist in the completion of a project related to the Information Technology career cluster.
06.0	Describe how information technology is used in the Information Technology career cluster. The student will be able to:
	06.01 Identify information technology (IT) careers in the Information Technology career cluster, including the responsibilities, tasks and skills they require.

CTE Standards and Benchmarks	
	06.02 Relate information technology project management concepts and terms to careers in the Information Technology career cluster.
	06.03 Manage information technology components typically used in professions of the Information Technology career cluster.
	06.04 Identify security-related ethical and legal IT issues faced by professionals in the Information Technology career cluster.
07.0	Use information technology tools. The student will be able to:
	07.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Information Technology career cluster.
	07.02 Use e-mail clients to send simple messages and files to other Internet users.
	07.03 Demonstrate ways to communicate effectively using Internet technology.
	07.04 Use different types of web search engines effectively to locate information relevant to the Information Technology career cluster.
	Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes: The student will be able to:
08.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
09.0	Develop skills to locate, evaluate, and interpret career information.
10.0	Identify and demonstrate processes for making short and long term goals.
11.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
12.0	Understand the relationship between educational achievement and career choices/postsecondary options.
13.0	Identify a career cluster and related pathways that match career and education goals.
14.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
15.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

FBLA and BPA 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.

<u>Accommodations</u>

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Information & Communications Technology (ICT) Essentials Careers and Career Planning**
Program Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Program Number	9009370
CIP Number	14900937MS
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Program Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to provide students with the computer, digital, and information technology skills necessary for success in their future academic and occupational goals. In addition to fundamental computer information, the content includes but is not limited to digital technologies associated with web development, multimedia, word processing, spreadsheet, database, Internet communications, cybersecurity, and computer programming.

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.

Program Structure

This program is a planned sequence of instruction consisting of three courses.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009110	Information & Communications Technology (ICT) Essentials 1	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7G WEB DEV 7G	Year
9009120	Information & Communications Technology (ICT) Essentials 2		Year
9009140	Information & Communications Technology (ICT) Essentials Careers and Career Planning		Year

Standards

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

01.0   Identify computer components and their functions.
02.0   Demonstrate knowledge of different operating systems.
03.0   Demonstrate an understanding of Internet safety and ethics.
04.0   Demonstrate proficiency using the Internet to locate information.
05.0   Demonstrate proficiency in using word processing software.
06.0   Demonstrate proficiency in using presentation software.
07.0   Demonstrate proficiency in using graphics software.
08.0   Demonstrate appropriate use of email.
09.0   Demonstrate knowledge of safety and privacy practices for online communication.
10.0   Develop and apply fundamental spreadsheet skills.
11.0   Develop and apply database skills.
12.0   Demonstrate skill in using video editing software and equipment.
13.0   Demonstrate proficiency in using audio editing software (e.g., Audacity).
14.0   Demonstrate proficiency locating, gathering, and preparing textual, graphical, and image-based web content.
15.0   Use Web 2.0 or Internet-based collaborative technology (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to facilitate a web development or research project.
16.0   Demonstrate an understanding of computer networks.
17.0   Demonstrate proficiency in web page development.
18.0   Demonstrate proficiency in game development.
19.0   Demonstrate proficiency in basic programming.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:

20.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
21.0   Develop skills to locate, evaluate, and interpret career information.
22.0   Identify and demonstrate processes for making short and long term goals.
23.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
24.0   Understand the relationship between educational achievement and career choices/postsecondary options.
25.0   Identify a career cluster and related pathways that match career and education goals.
26.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
27.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Information & Communications Technology (ICT) Essentials 1**
Course Number: **9009110**
Course Length: **Year**
Grade: **6-8**

Course Description:

This course introduces students to core concepts associated with computers and their use. The content includes hands-on opportunities to explore various software applications.

CTE Standards and Benchmarks
01.0   Identify computer components and their functions. The student will be able to:
01.01   Describe what defines a computer and ways a computer can be used.
01.02   Identify the internal components of a computer (e.g., case, CPU, RAM, power supply, hard drive, motherboard, expansion cards, cabling).
01.03   Identify and know how to connect various computer input devices (e.g., mouse, keyboard, phone, camera, scanner, microphone, game controller, stylus, barcode reader finger print scanner, GPS device, touch pad, graphics tablet) and describe their use.
01.04   Identify and know how to connect various computer output devices (e.g., monitor, printer, projector, speakers, headphones) and describe their use.
01.05   Identify and know how to connect various storage devices (e.g., flash drive, external hard drive (SSD, network drive), memory card, discs, cloud).
02.0   Demonstrate knowledge of different operating systems. The student will be able to:
02.01   Compare and contrast various operating systems used in a computer and mobile devices (i.e., Windows, OS (Apple), UNIX, Android, iOS).
02.02   Describe and use conventional file naming conventions.
02.03   Demonstrate proficiency with file management tasks (e.g., folder creation, file creation, backup, copy, delete, open, save).
02.04   Be able to identify file types by extension (e.g., .doc, .txt, .wav, xls).
02.05   Demonstrate proficiency in using gadgets, icons, and taskbars and other pre-loaded operating system programs. (e.g., calculator, text editor, clock, volume controls, adding icons and shortcuts to taskbar and shortcut menus).
03.0   Demonstrate an understanding of Internet safety and ethics. The student will be able to:

	03.01	Describe risks associated with social networking sites (e.g., FaceBook, Snapchat, Instagram, Twitter) and ways to reduce these risks.
	03.02	Define "privacy" and relate it to the term "digital footprint."
	03.03	Practice cybersafety techniques to protect your personal information when using internet searches, email, chat rooms, and social network websites.
	03.04	Describe cyberbullying, its impact on perpetrators and victims and ways to respond.
	03.05	Describe risks associated with sexting (including legal issues, social consequences), and discuss methods for response, reporting, and prevention.
	03.06	Describe risks associated with online gaming, and identify ways to reduce these risks.
	03.07	Discuss issues related to downloading music or videos from the Internet, including unethical vs. illegal actions.
	03.08	Compare and contrast rules for copyright and fair use, especially in relation to using online resources for school and educational purposes.
	03.09	Distinguish between viruses and malware and discuss their impact on personal privacy and computer operation.
	03.10	Describe common threats used to spread malware and viruses, including phishing, pharming, Trojans, spyware, malicious sites, "free" downloads.
	03.11	Perform an antivirus scan on a computer system to check for viruses and malware.
	03.12	Describe strong password practices.
	03.13	Practice cyber safety techniques to protect your computer system when using Internet searches, email and social network websites.
	03.14	Identify security issues related to mobile phones, including personal information compromised if a phone is lost or stolen.
	03.15	Adhere to Acceptable Use Policies when accessing the Internet.
04.0	Demonstrate proficiency using the Internet to locate information. The student will be able to:	
	04.01	Identify and use web terminology (WWW, Web Browser, Internet, Web Server, Web Page, Address Bar, Hyperlinks, Navigation Buttons, Search Bar, Bookmarks/Favorites, Tab, Downloading, Plug-ins, Social Media Plug-ins).
	04.02	Define Universal Resource Locators (URLs) and associated protocols (e.g., http, ftp, telnet, mailto).
	04.03	Compare and contrast the types of Internet domains (e.g., .com, .org, .edu, .gov, .net, .mil).
	04.04	Demonstrate proficiency using search engines, including Boolean search techniques.
	04.05	Demonstrate proficiency using various web tools (e.g., downloading of files, transfer of files, telnet, PDF).
	04.06	Compare and contrast the roles of web servers and web browsers.

	04.07	Evaluate online information for relevance, credibility and quality using basic guidelines and indicators (e.g., authority, affiliation, purpose, bias, date).
	04.08	Identify and apply copyright and fair use guidelines, and explain plagiarism as an ethical and legal violation.
	04.09	Incorporate results from Internet searches into a research project (e.g., report, summary).
	04.10	Download images as needed to support a research project, complying with copyright notices.
	04.11	Properly cite Internet sources used to obtain information for a research project.
05.0	05.0	Demonstrate proficiency in using word processing software. The student will be able to:
	05.01	Describe the general functions of word-processing software, including benefits for document creation, commonly used word-processing applications.
	05.02	Define the term "cloud computing," and explain benefits of creating and storing word-processing documents online.
	05.03	List and describe common word processor interface tools and features.
	05.04	Identify common keyboard shortcuts used in word processors, and explain the benefits of using shortcuts.
	05.05	Format the page setup of a document, including margins, line spacing, indents, headers vs. footers, orientation.
	05.06	Explain printing options in a word processor, including shrink-to-fit, 2-sided printing, and document orientation.
	05.07	Copy, paste and move text within a document using mouse, menu and keyboard techniques.
	05.08	Copy, paste and move text among multiple documents using mouse, menu and keyboard techniques.
	05.09	Modify document view settings to display close-up, single and multiple pages.
	05.10	Define the term "format" as it relates to word processing.
	05.11	Format text using styles and font tools in a word processor.
	05.12	Format a document using multi-level heading styles to enable an outline view (e.g., document map, navigation pane) in a word processor.
	05.13	Create a table of contents using auto-generation tools and techniques in a word processor.
	05.14	Insert page breaks in a document.
	05.15	Create source citations and/or a bibliography in a document.
	05.16	Insert a current date and time stamp into a document.
	05.17	Use word processor tools to determine the number of pages, words and characters in a document.

	05.18	Use spell check, grammar check, thesaurus, and find & replace to edit a document.
	05.19	Insert and modify sizing of images in a word-processing document.
	05.20	Position an image relative to text in a document, using various text-wrapping options (inline, square, tight).
	05.21	Use word-processing drawing tools to create pre-formatted shapes that enhance a document's content.
	05.22	Use word-processor drawing tools to create a visual representation of information (e.g., SmartArt), such as diagram, flow chart.
	05.23	Apply a column layout to text in a document as appropriate for the content (e.g., article, newsletter).
	05.24	Apply simple numbered and bulleted lists in a document to make content easier to read and understand.
	05.25	Format numbered and bulleted lists to produce multi-level outline in a document.
	05.26	Create a simple brochure and/or flyer using a template.
	05.27	Create a table in a word-processing document, and enter and move data in the table.
	05.28	Convert a body of text into a table structure in a document to make content easier to read and understand.
	05.29	Define "collaboration" and explain ways that users can collaborate on word-processing documents, including installed software vs. cloud-based software, real-time collaboration, auto save, sharing tools, revision history.
	05.30	Use the translation tool in a word processor to translate text in a document from English into another language, and vice versa.
	05.31	Add comments to a document when reviewing and/or editing content.
	05.32	Revise a document using editing tools (e.g., Track Changes) in a word processor, and accept or reject changes as appropriate.
06.0	Demonstrate proficiency in using presentation software. The student will be able to:	
	06.01	Describe presentation software and the ways it can be used.
	06.02	Create and/or modify a "slide master" or template to apply a consistent appearance to a presentation.
	06.03	Add and format titles, subtitles and talking points in presentation slides.
	06.04	Add slide numbers and/or date and time codes to presentation slides.
	06.05	Insert and format images/graphics in presentation slides.
	06.06	Insert new or duplicate slides in a presentation.
	06.07	Modify slide transitions in a presentation to include animation.

	06.08	Insert and/or modify sound settings and timing in a presentation.
	06.09	Modify the sequence of slides in a presentation.
	06.10	Produce a presentation that includes text, graphics and images, and present it.
	06.11	Modify a presentation's setup to repeat (i.e., loop) the presentation continuously.
07.0	Demonstrate proficiency in using graphics software. The student will be able to:	
	07.01	Describe graphics software and the ways it can be used.
	07.02	Compare and contrast vector and raster images.
	07.03	Identify image file formats for photos and graphical art (e.g., TIFF, BMP, PSD, EPS, JPEG, GIF, PNG), and specify which formats are supported on the Web.
	07.04	Define terms related to the creation and display of graphical images (e.g., raster, vector, transparency, opacity, cropping, lasso, magic wand, marquee, canvas size, flattened, blur, dodge, sharpen, staking order, free transform, lossless, adjustments, move, clone, zoom, layers, filter, distort).
	07.05	Create images with effects using different tools, brushes, adjustments and filters available in graphics software.
	07.06	Copy and paste graphical images.
	07.07	Modify shapes and colors in a graphical image.
	07.08	Save and export a digital photograph in a format that provides the best image quality and file size for Internet use.
	07.09	Create a progressive slide presentation using graphical design/layout template features (e.g., SmartArt) and animated transitions.
	07.10	Use a portable digital video device (e.g., mobile phone, flip camera) or similar online tools to shoot video files, and transfer them to a computer.
	07.11	Use video-editing software to produce a slide show or movie.
	07.12	Create a multimedia presentation that incorporates edited video, animation, music and/or narration, and that applies principles of good design, smooth transitions and effective message delivery.
08.0	Demonstrate appropriate use of email. The student will be able to:	
	08.01	Define "email "and describe the functions and advantages as a form of communication.
	08.02	Identify components of an email message.
	08.03	Explain the format of an email address (i.e., user name, @ symbol, domain).
	08.04	Attach a file to an email message.

08.05	Reply to and forward an email message to one or more addressees.
08.06	Use the Internet to perform email activities (i.e., web-based email).
08.07	Identify the appropriate use of email and demonstrate related email etiquette.
08.08	Perform email organization and cleanup (e.g., trash, flags, create folders).

Florida Department of Education
Student Performance Standards

Course Title: **Information & Communications Technology (ICT) Essentials 2**
Course Number: **9009120**
Course Length: **Year**
Grade: **6-8**

Course Description:

This course builds on the previous course and provides greater depth and more complex concepts and the skills/knowledge to master these concepts. Students will be provided opportunities to extend their skills with various software applications by creating more complex documents and using more complex functions.

CTE Standards and Benchmarks
09.0 Demonstrate knowledge of safety and privacy practices for online communication.   The student will be able to:
09.01 Define "privacy" and relate it to the term "digital footprint."
09.02 Describe the risks of communicating on social networking sites (e.g. Facebook, Twitter, Instagram) and identify ways to communicate safely.
09.03 Distinguish between copyright infringement, plagiarism and fair use in an educational setting and in relation to school projects, especially with music and pictures.
09.04 Describe online communication practices that contribute to cyberbullying.
09.05 Practice safe online communication techniques with Internet searches, email, chat rooms, and other social network websites.
09.06 Follow an Acceptable Use Policy (AUP) when accessing the Internet.
10.0 Develop and apply fundamental spreadsheet skills. The student will be able to:
10.01 Define "spreadsheet" and describe ways it may be used.
10.02 Identify the parts of the spreadsheet display, including cells, columns and rows, cell references, cell range.
10.03 Create and navigate through multiple spreadsheets in a file.
10.04 Insert and format various types of data (text, numeric, date/time) in a spreadsheet cells.
10.05 Select multiple cells, including adjacent and non-adjacent ranges, using mouse and keyboard techniques.
10.06 Cut, copy, and paste information from one or more cells to another part of the spreadsheet.

CTE Standards and Benchmarks	
10.07	Use the undo and redo tools in a spreadsheet.
10.08	Apply and modify cell formatting for currency, date and percentage values.
10.09	Resize column width and row height in a spreadsheet.
10.10	Insert and delete columns and rows in a spreadsheet.
10.11	Merge and unmerge cells in a spreadsheet.
10.12	Apply shading and borders to a spreadsheet.
10.13	Describe the purpose of a table and how it relates to a spreadsheet.
10.14	Create and print a table and/or range that displays and sums the values of different data types.
10.15	Identify various types of charts (e.g., line, bar, pie, scatter) and common chart components (e.g., vertical axis, horizontal axis, legend), and explain when to use each chart type.
10.16	Create a chart from existing data and format the pieces (data set), change the background color, and add appropriate titles and a legend.
10.17	Use the auto sum function to calculate the values of multiple cells.
10.18	Insert common functions (SUM, AVERAGE, COUNT, MAX, MIN) and simple mathematical formulas which include addition, subtraction, multiplication, or division into a spreadsheet.
10.19	Distinguish between absolute and relative cell references in a spreadsheet.
10.20	Use the sort function to organize information numerically or alphabetically, including multiple levels of sorting.
10.21	Use the filter function to display spreadsheet data based on specific criteria.
10.22	Use conditional formatting to highlight text in a spreadsheet.
11.0	Develop and apply database skills. The student will be able to:
11.01	Define database and describe real-world uses (e.g.. search engines, schools, drivers licenses & car registrations, hospitals, retail, law enforcement).
11.02	Distinguish between databases and spreadsheets.
11.03	Identify advantages of using a database instead of alternatives (e.g., spreadsheets, electronic documents, paper).
11.04	Define "Big Data" and describe how it is used in advertising.
11.05	Identify the components of a database.
11.06	Distinguish between fields and records in a database.

CTE Standards and Benchmarks

	11.07	Describe the basic data types and formats used in a database.
	11.08	Distinguish between a table and a query.
	11.09	Identify database keys, including primary and foreign.
	11.10	Identify the relationships between tables in databases (i.e., one-to-one, one-to-many, many-to-many).
	11.11	Distinguish between a query and a report.
	11.12	Identify various report types.
	11.13	Describe Structured Query Language (SQL) and discuss its use with databases.
	11.14	Identify and compare various database applications, including Microsoft Access, MySQL, Oracle.
	11.15	Create a database table that uses multiple data types.
	11.16	Add, Edit, and Delete records from a database table.
	11.17	Sort records in a database query or table.
	11.18	Troubleshoot common database errors, including data type errors, query syntax errors.
	11.19	Create a basic select query in one table.
	11.20	Create an action query to manipulate data.
	11.21	Create a query using primary and foreign keys.
	11.22	Create a simple table join.
	11.23	Import and export data from a database into a spreadsheet.
	11.24	Create relevant reports from a database.
12.0		Demonstrate skill in using video editing software and equipment. The student will be able to:
	12.01	Demonstrate ability to operate a video camera (e.g., Flip camera, cell phone).
	12.02	Write storyboards to depict a one minute video segment.
	12.03	Determine appropriate lighting needs.
	12.04	Create video shots sufficient to produce a one minute video.

		CTE Standards and Benchmarks
	12.05	Identify the functions and benefits of the digital video software interface.
	12.06	Demonstrate ability to edit, cut, erase, and insert video.
	12.07	Edit video as needed to achieve desired message and length.
	12.08	Describe a first complete run-through of the video production process.
	12.09	Characterize the qualities of effective communication in a completed video.
	12.10	Upload finished video files to a website.
13.0		Demonstrate proficiency in using audio editing software (e.g., Audacity). The student will be able to:
	13.01	Identify the functions and benefits of the audio editing software interface.
	13.02	Demonstrate ability to edit, cut, erase, and insert audio.
	13.03	Edit audio as needed to achieve desired message and length.
	13.04	Prepare a 30 second to 1 minute audio commercial project.
14.0		Demonstrate proficiency locating, gathering, and preparing textual, graphical, and image-based web content. The student will be able to:
	14.01	Define the elements of a webpage and what makes a good webpage.
	14.02	Describe effective text and image content for webpages based on how visitors use the Web.
	14.03	List guidelines and conventions for effective text on webpage.
	14.04	Explain the inverted pyramid model of newspaper journalism and how it applies to Web content.
	14.05	Use word-processing software to create effective written content for a webpage.
	14.06	Create and/or edit message-driven image content for a webpage using graphics software.
	14.07	Access graphics through various recourses (e.g., scanner, digital camera, CD-ROM, clipart, copyright-free online graphics).
	14.08	Plan the content and design of a basic webpage using strategies for effective Web communication, including brainstorming, determining audience, choosing content and media types, using white space.

Florida Department of Education
Student Performance Standards

Course Title: Information & Communications Technology (ICT) Essentials Careers and Career Planning
Course Number: 9009140
Course Length: Year
Grade: 6-8

Course Description:

This course builds on the previous two courses and provides greater depth and more complex concepts and the skills/knowledge to master these concepts. In addition to working with network concepts, students will be provided opportunities to further extend their skills with various software applications by creating more complex documents and using more complex functions and technologies. Students will continue their exposure to computer programming and the creation of more complex computer programs. For the programming instruction, the use of Alice from Carnegie Mellon University is encouraged as it is a highly engaging program, includes instructional materials, and is available at no cost.

CTE Standards and Benchmarks
15.0 Use Web 2.0 or Internet-based collaborative technology (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to facilitate a web development or research project. The student will be able to:
15.01 Create and use a collaborative environment for communicating and sharing among project team members.
15.02 Create and use a social media page (e.g., Wikis, Wimba, Moodle, Edmodo, Facebook, Schoology, Gaggle) to share and publish project components (e.g., content, images, graphics, videos) for gauging visitor reaction and obtaining feedback.
16.0 Demonstrate an understanding of computer networks. The student will be able to:
16.01 Define "network" and give examples of networks used at home, school, and work.
16.02 Compare types of networks, including LAN, WAN, MAN, VPN, intranet, extranet, the Internet.
16.03 Compare common network topologies, including bus, star, ring, mesh.
16.04 Compare various network models and their advantages, including client/server, mainframe/terminal, peer-to-peer.
16.05 Compare various methods and media for network connections, including broadband, wireless, Bluetooth, cellular, satellite.
16.06 Describe the functions of various network hardware devices, including NIC, hub, switch, router, bridge, gateway, access point.
16.07 Describe the purpose of protocols, and identify the protocols commonly used in networks, including TCP/IP, DHCP, DNS, HTTP, FTP, IMAP, POP, SMTP.
16.08 Describe the purpose and function of IP addressing and distinguish between public and private IP addresses.

CTE Standards and Benchmarks	
16.09	Describe the OSI reference model and its layers, including tracing the flow of data between two network nodes through the OSI layers.
17.0	Demonstrate proficiency in webpage development. The student will be able to:
17.01	Identify website domains, and relate a site's domain to its purpose.
17.02	Relate basic components of a webpage (e.g. color, space, written content, typography, images, links, multimedia) to aesthetic, functional and/or usable design principals.
17.03	Define aesthetic design, and explain how aesthetics can affect a visitors' perception of a website's information.
17.04	Demonstrate knowledge of color wheel concepts and effective use of color on a website.
17.05	Compare functional and usable design principles, and explain how usability can affect a website's success.
17.06	Critique the aesthetic design, usability and accessibility of sample websites.
17.07	Define multimedia, and identify its role in webpage interactivity.
17.08	Explain the primary steps of the website planning process.
17.09	Apply the website planning process to plan the design for basic website.
17.10	Build the site navigation scheme for a website.
17.11	Compare webpage creation using an HTML text editor to using a graphical user interface (GUI) editor.
17.12	Compare website creation using an online site builder, an offline site builder and a content management system (CMS).
17.13	Modify an existing webpage template to create an effective look and feel for a website.
17.14	Create a website using a template.
17.15	Define "HTML (Hypertext Markup Language)" and related terms, including tag vs. element, container vs. empty tag, block-level vs. inline element, attribute value, semantic tag.
17.16	Identify HTML elements required to create webpage structure.
17.17	Create webpages using basic HTML tags (e.g., headings, lists, character styles, text alignment, tables, comments).
17.18	Use HTML to create hyperlinks to external sites.
17.19	Use HTML to insert common image file formats into webpages, and use an image as a hyperlink.
17.20	Explain Cascading Style Sheet (CSS) technology.

CTE Standards and Benchmarks	
17.21	Apply CSS styles to an HTML page.
17.22	Create and/or edit animation files, and integrate them into a webpage.
17.23	Create and/or edit video files, and integrate them into a webpage.
17.24	Use Dynamic HTML (DHTML) to enhance webpage interactivity.
17.25	Create and use a wiki or similar tool for collaborating among project team members.
17.26	Create and use a social media page (e.g., Facebook, Wimba, Edmodo) and/or a blog to share content and collaborate on projects.
17.27	Review webpage content, verify copyright restrictions, and create meta-data before publishing a site to the internet.
17.28	Test webpages for display, functionality, and accessibility before publishing a site to the Internet.
17.29	Validate webpage code using W3C validation tools before publishing a site to the Internet.
17.30	Describe network issues relating to websites, including bandwidth, compression, streaming, web hosting.
17.31	Explain the purpose of File Transfer Protocol (FTP) in accessing information on the Internet.
17.32	Publish a website using FTP.
17.33	Describe website security methods, including secure server vs. unsecured served, SSL, SSH, encryption.
18.0 Demonstrate proficiency in game development. The student will be able to:	
18.01	Describe the role of games in modern society (e.g., education, task training, social networking, therapy, recreation).
18.02	Identify various types of games (e.g., chance, skill, knowledge, role-playing, and storytelling).
18.03	Identify the steps of the design process for creating a game.
18.04	Apply the design process to solving a problem.
18.05	Analyze (deconstruct) existing games.
18.06	Identify the tools and skills needed for creating games.
18.07	Identify design criteria and constraints.
18.08	Create storyboards to model a game's program flow and functionality.
18.09	Identify the programmer's role in creating games.

CTE Standards and Benchmarks	
18.10	Identify common programming languages and applications used to create computer games.
18.11	Compare sequential, iteration (loop) and selection programming structures.
18.12	Define the term algorithm (i.e., a set of repeatable steps) and how it applies to problem solving.
18.13	Create an algorithm to solve a problem or complete a task.
18.14	Use pseudo-code to model a game program's flow.
18.15	Define logic errors and identify them in a game program or model.
18.16	Explain the types and uses of variables in game programming.
18.17	Describe basic Boolean concepts, including logical operators, order of precedence, expressions.
18.18	Describe the use of events, event handlers and functions in game programming.
18.19	Describe the use of parameters and arguments in game programming.
18.20	Describe the use of objects, classes and instances in game programming.
18.21	Describe the use of properties and methods with objects in game programming.
18.22	Write appropriate code to create a simple game using structured programming.
18.23	Test and evaluate the game program you created.
18.24	Modify the game program as needed to solve a problem.
18.25	Create an animated object (i.e., sprite) to be used in a game program.
18.26	Use programming code to control the behavior of an animated object (i.e., sprite) in a game program.
19.0 Demonstrate proficiency in basic programming. The student will be able to:	
19.01	Define "programming" and discuss its role in computing.
19.02	Explain the binary representation of data and programs in computers.
19.03	Distinguish among the three types of programming languages (machine, assembly, high-level), and give examples.
19.04	Compare and contrast languages that are usually compiled (e.g., C++, Java) and interpreted (e.g., JavaScript, Python).
19.05	Describe the structure of a simple program, and explain why sequencing is important.

CTE Standards and Benchmarks

19.06	Write a program design document using pseudo-code that shows program flow.	
19.07	Explain strategies used in problem-solving, and relate them to computer programming.	
19.08	Define the term "algorithm," and explain how it relates to problem-solving.	
19.09	Explain the three types of programming errors (i.e., logic, syntax, runtime), and describe the forms of testing that can be used to locate and debug errors.	
19.10	Solve a problem using logic by planning a strategy, designing and testing a hypothesis, and/or creating a set of step-by-step instructions to perform a task.	
19.11	Define "structured programming" and discuss the advantages of this approach.	
19.12	Define the three main programming control structures used in structured programming: sequential, selection (decision), and iteration (loops).	
19.13	Describe iterative programming structures (e.g., while, do/while) and how they are used in programming.	
19.14	Describe selection programming structures (e.g., if/then, else) and explain the logic used for if statements.	
19.15	Write a simple program in pseudo-code that uses structured programming to solve a problem.	
19.16	Explain the types and uses of variables in programming.	
19.17	Explain basic object-oriented concepts.	
19.18	Describe fundamental Boolean concepts, including Boolean algebra, operators, logic.	
19.19	Create animated objects using a high-level programming environment (e.g., Alice, Greenfoot) to control their behavior.	
19.20	Create a simple program that uses animated objects.	
19.21	Convert a simple program from pseudo-code into a common high-level programming environment (e.g. Alice, Greenfoot).	
19.22	Troubleshoot and debug errors in code.	
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:		
The student will be able to:		
20.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.	
21.0	Develop skills to locate, evaluate, and interpret career information.	

CTE Standards and Benchmarks	
22.0	Identify and demonstrate processes for making short and long term goals.
23.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
24.0	Understand the relationship between educational achievement and career choices/postsecondary options.
25.0	Identify a career cluster and related pathways that match career and education goals.
26.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
27.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

FBLA and BPA 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Networking and Information Support**
Course Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Course Number	9009400
CIP Number	149009400M
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Information Technology career cluster. The content includes but is not limited to foundational knowledge and skills related to computer networks and information support structure in the information technology industry.

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.

Program Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009400	Fundamentals of Networking and Information Support	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7G CYBER TECH 7G	Year

Standards

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

01.0   Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
02.0   Demonstrate comprehension and communication skills.
03.0   Use technology to enhance the effectiveness of communication skills.
04.0   Demonstrate an understanding of Internet safety and ethics.
05.0   Perform e-mail activities.
06.0   Demonstrate knowledge of different operating systems.
07.0   Demonstrate proficiency navigating the Internet and the intranet.
08.0   Develop an awareness of microprocessors and digital computers.
09.0   Demonstrate an understanding of the Open Systems Interface (OSI) model.
10.0   Identify computer components and their functions.
11.0   Demonstrate proficiency using computer networks.
12.0   Demonstrate an understanding of database design, structure, and operation.
13.0   Demonstrate a fundamental understanding of Structured Query Language (SQL).

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Networking and Information Support**
Course Number: **9009400**
Course Length: **Year**

Course Description:

This course provides students with opportunities to acquire foundational knowledge and skills suitable for pursuing higher level programs of study related to the information technology industry.

CTE Standards and Benchmarks
01.0 Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance. The student will be able to:
01.01 Develop keyboarding skills to enter and manipulate text and data.
01.02 Describe and use current and emerging computer technology and software to perform personal and business related tasks.
01.03 Identify and describe communications and networking systems used in workplace environments.
01.04 Use reference materials such as on-line help, vendor bulletin boards, tutorials, and manuals available for application software.
01.05 Describe ethical issues and problems associated with computers and information systems.
02.0 Demonstrate comprehension and communication skills. The student will be able to:
02.01 Use listening, speaking, telecommunication and nonverbal skills and strategies to communicate effectively.
02.02 Organize ideas and communicate oral and written messages appropriate for information technology environments.
02.03 Collaborate with individuals and teams to complete tasks and solve information technology problems.
02.04 Demonstrate an awareness of project management concepts and tools (e.g., timelines, deadlines, resource allocation, time management, delegation of tasks, collaboration).
03.0 Use technology to enhance the effectiveness of communication skills. The student will be able to:
03.01 Use database, spreadsheet, presentation software, scheduling, and integrated software packages to enhance communication.
03.02 Respond to and utilize information derived from multiple sources (e.g., written documents, instructions, e-mail, voice mail) to solve problems and complete tasks.
04.0 Demonstrate an understanding of Internet safety and ethics. The student will be able to:

CTE Standards and Benchmarks	
04.01	Describe cyber-bullying and its impact on perpetrators and victims.
04.02	Differentiate between viruses and malware, specifically their sources, ploys, and impact on personal privacy and computer operation, and ways to avoid infection.
04.03	Describe risks associated with sexting, including related legal issues, social engineering aspects, prevention methods, and reporting of offenses.
04.04	Describe the risks associated with online gaming and ways to mitigate these risks.
04.05	Describe the ethics and copyright legalities of downloading music or videos from the Internet.
04.06	Describe risks associated with social networking sites (e.g., FaceBook, MySpace, Twitter) and ways to mitigate these risks.
04.07	Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.
05.0 Perform email activities. The student will be able to:	
05.01	Describe email capabilities and functions.
05.02	Identify components of an email message.
05.03	Identify the components of an email address.
05.04	Identify when to use different email options.
05.05	Attach a file to an email message.
05.06	Forward an email message.
05.07	Use an address book.
05.08	Reply to an email message.
05.09	Use the Internet to perform email activities.
05.10	Identify the appropriate use of email and demonstrate related email etiquette.
05.11	Identify when to include information from an original email message in a response.
05.12	Identify common problems associated with widespread use of email.
06.0 Demonstrate knowledge of different operating systems. The student will be able to:	

	06.01	Identify operating system file naming conventions.
	06.02	Demonstrate proficiency with file management and structure (e.g., folder creation, file creation, backup, copy, delete, open, save).
	06.03	Demonstrate a working knowledge of standard file formats.
	06.04	Explain the history and purpose of various operating systems (e.g., DOS, Windows, Mac, Linux).
07.0	Demonstrate proficiency navigating the Internet and the intranet. The student will be able to:	
	07.01	Identify and describe Web terminology.
	07.02	Demonstrate proficiency in using the basic features of GUI browsers (e.g., setting bookmarks, basic configurations, email configurations, address book).
	07.03	Define Universal Resource Locators (URLs) and associated protocols (e.g., .com, .org, .edu, .gov, .net, .mil).
	07.04	Demonstrate proficiency using search engines (e.g., Yahoo!, Google).
	07.05	Demonstrate proficiency downloading files.
	07.06	Identify effective Boolean search strategies.
08.0	Develop an awareness of microprocessors and digital computers. The student will be able to:	
	08.01	Describe the evolution of the digital computer.
	08.02	Explain the general architecture of a microcomputer system.
	08.03	Explain the evolution of microprocessors.
	08.04	Explain software hierarchy and its impact on microprocessors.
	08.05	Explain the need for and use of peripherals.
	08.06	Demonstrate proficiency using peripherals.
	08.07	Identify the basic concepts of computer maintenance and upgrades.
	08.08	Differentiate between diagnosing and troubleshooting.
09.0	Demonstrate an understanding of the Open Systems Interface (OSI) model. The student will be able to:	

CTE Standards and Benchmarks	
09.01	Describe the evolution of OSI from its inception to the present and into the future.
09.02	Explain the interrelations of the seven layers of the Open Systems Interface (OSI) as it relates to hardware and software.
09.03	Describe the purpose of the OSI model and each of its layers.
09.04	Explain specific functions belonging to each OSI model layer.
09.05	Understand how two network nodes communicate through the OSI model.
09.06	Discuss the structure and purpose of data packets and frames.
09.07	Describe the two types of addressing covered by the OSI model.
10.0	Identify computer components and their functions. The student will be able to:
10.01	Identify the internal components of a computer (e.g., power supply, hard drive, mother board, I/O cards/ports, cabling).
10.02	Use common computer and programming terminology.
11.0	Demonstrate proficiency using computer networks. The student will be able to:
11.01	Define networking and describe the purpose of a network.
11.02	Describe the conceptual background of digital networks including terminology and basics.
11.03	Describe various types of networks and the advantages and disadvantages of each (e.g., peer to peer, client/server, mainframe/terminal).
11.04	Describe the use, advantages, and disadvantages of various network media (e.g., thinnet cable, coaxial), twisted pair (cat 5), fiber optics).
11.05	Describe the function of various network devices (e.g., hub, switched hub or switch, router bridge, gateway, access points).
11.06	Describe how network devices are identified (i.e., IP addressing).
11.07	Explain the protocols commonly used in a network environment.
11.08	Differentiate between public and private IP addresses.
11.09	Describe the common ports and corresponding protocols used in a network.
11.10	Describe the difference between the Internet and intranet.

	11.11	Discuss the differences between Local Area Network (LAN), Wide Area Network (WAN), Metropolitan Area Network (MAN), and Virtual Private Network (VPN).
12.0	Demonstrate an understanding of database design, structure, and operation. The student will be able to:	
	12.01	Describe a relational database and its key elements.
	12.02	Describe the Entity Relationship Model (ERM).
	12.03	Differentiate between one-to-many, many-to-many and one-to-one relationships.
	12.04	Define referential integrity and describe its importance to managing information.
13.0	Demonstrate a fundamental understanding of Structured Query Language (SQL). The student will be able to:	
	13.01	List the capabilities of SQL SELECT statements.
	13.02	Execute basic SQL statements, including SELECT, INSERT, and UPDATE.
	13.03	Apply the concatenation operator to link columns to other columns, arithmetic expressions, or constant values to create a character expression.
	13.04	Use the AS clause to define column aliases to rename columns in the query result.
	13.05	Use SQL to display the structure of a table.
	13.06	Apply SQL syntax to restrict the rows returned from a query.
	13.07	Demonstrate application of the WHERE clause syntax.
	13.08	Apply the proper comparison operator to return a desired result.

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.

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Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Web and Software Development**
Course Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Course Number	9009500
CIP Number	149009500M
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FBLA BPA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Information Technology career cluster. The content includes but is not limited to foundational knowledge and skills related to web and software development in the information technology industry.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9009500	Fundamentals of Web and Software Development	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7G WEB DEV 7G COMP PROG 7G	Year

Standards

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

01.0   Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
02.0   Demonstrate comprehension and communication skills.
03.0   Use technology to enhance the effectiveness of communication skills.
04.0   Demonstrate an understanding of Internet safety and ethics.
05.0   Perform e-mail activities.
06.0   Demonstrate knowledge of different operating systems.
07.0   Demonstrate proficiency navigating the Internet and the intranet.
08.0   Demonstrate proficiency using HTML commands.
09.0   Demonstrate proficiency in webpage design.
10.0   Demonstrate proficiency using specialized web design software.
11.0   Develop an awareness of programming languages.
12.0   Demonstrate proficiency using common software applications.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Web and Software Development**
Course Number: **9009500**
Course Length: **Year**

Course Description:

This course provides students with opportunities to acquire foundational knowledge and skills suitable for pursuing higher level programs of study related to the information technology industry.

CTE Standards and Benchmarks
01.0 Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance. The student will be able to:
01.01 Develop keyboarding skills to enter and manipulate text and data.
01.02 Describe and use current and emerging computer technology and software to perform personal and business related tasks.
01.03 Identify and describe communications and networking systems used in workplace environments.
01.04 Use reference materials such as on-line help, vendor bulletin boards, tutorials, and manuals available for application software.
01.05 Describe ethical issues and problems associated with computers and information systems.
02.0 Demonstrate comprehension and communication. The student will be able to:
02.01 Use listening, speaking, telecommunication and nonverbal skills and strategies to communicate effectively.
02.02 Organize ideas and communicate oral and written messages appropriate for information technology environments.
02.03 Collaborate with individuals and teams to complete tasks and solve information technology problems.
02.04 Demonstrate an awareness of project management concepts and tools (e.g., timelines, deadlines, resource allocation, time management, delegation of tasks, collaboration).
03.0 Use technology to enhance the effectiveness of communication skills. The student will be able to:
03.01 Use database, spreadsheet, presentation software, scheduling, and integrated software packages to enhance communication.
03.02 Respond to and utilize information derived from multiple sources (e.g., written documents, instructions, email, voice mail) to solve problems and complete tasks.
04.0 Demonstrate an understanding of Internet safety and ethics. The student will be able to:

CTE Standards and Benchmarks	
04.01	Describe cyber-bullying and its impact on perpetrators and victims.
04.02	Differentiate between viruses and malware, specifically their sources, ploys, and impact on personal privacy and computer operation, and ways to avoid infection.
04.03	Describe risks associated with sexting, including related legal issues, social engineering aspects, prevention methods, and reporting of offenses.
04.04	Describe the risks associated with online gaming and ways to mitigate these risks.
04.05	Describe the ethics and copyright legalities of downloading music or videos from the Internet.
04.06	Describe risks associated with social networking sites (e.g., FaceBook, MySpace, Twitter) and ways to mitigate these risks.
04.07	Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.
05.0	Perform email activities. The student will be able to:
05.01	Describe email capabilities and functions.
05.02	Identify components of an email message.
05.03	Identify the components of an email address.
05.04	Identify when to use different email options.
05.05	Attach a file to an email message.
05.06	Forward an email message.
05.07	Use an address book.
05.08	Reply to an email message.
05.09	Use the Internet to perform email activities.
05.10	Identify the appropriate use of email and demonstrate related email etiquette.
05.11	Identify when to include information from an original email message in a response.
05.12	Identify common problems associated with widespread use of email.
06.0	Demonstrate knowledge of different operating systems. The student will be able to:
06.01	Identify operating system file naming conventions.
06.02	Demonstrate proficiency with file management and structure (e.g., folder creation, file creation, backup, copy, delete, open, save).
06.03	Demonstrate a working knowledge of standard file formats.
06.04	Explain the history and purpose of various operating systems (e.g., DOS, Windows, Mac, Linux).

CTE Standards and Benchmarks

07.0	Demonstrate proficiency navigating the Internet and the intranet. The student will be able to:
	07.01 Identify and describe Web terminology.
	07.02 Demonstrate proficiency in using the basic features of GUI browsers (e.g., setting bookmarks, basic configurations, email configurations, address book).
	07.03 Define Universal Resource Locators (URLs) and associated protocols (e.g., .com, .org, .edu, .gov, .net, .mil).
	07.04 Demonstrate proficiency using search engines (e.g., Yahoo!, Google).
	07.05 Demonstrate proficiency downloading files.
	07.06 Identify effective Boolean search strategies.
08.0	Demonstrate proficiency using HTML commands. The student will be able to:
	08.01 Identify elements of a Web page.
	08.02 Define basic HTML terminology.
	08.03 Analyze HTML source code developed by others.
	08.04 Create Web pages using basic HTML tags (e.g., links, lists, character styles, text alignment, tables).
	08.05 Edit and test HTML documents for accuracy and validity.
	08.06 Create a website using basic functions of a WYSIWYG or GUI editor.
	08.07 Use basic functions of HTML, DHTML, and XML editors and converters.
	08.08 Enhance web pages through the addition of images and graphics including animation.
09.0	Demonstrate proficiency in webpage design. The student will be able to:
	09.01 Demonstrate an understanding of acceptable webpage design.
	09.02 Design a website using storyboarding techniques.
	09.03 Describe and apply color theory as it applies to webpage design (e.g., background and text color).
	09.04 Access and digitize graphics through various resources (e.g., scanner, digital cameras, on-line graphics, clipart, CD-ROMs).
	09.05 Use image design software to create and edit images.
	09.06 Demonstrate proficiency in publishing to the Internet.

CTE Standards and Benchmarks
10.0   Demonstrate proficiency using specialized web design software. The student will be able to:
10.01 Compare and contrast various specialized web design software (e.g., Dreamweaver, Flash).
10.02 Demonstrate proficiency using various specialized web design software (e.g., Dreamweaver, Flash).
11.0   Develop an awareness of programming languages. The student will be able to:
11.01 Explain the history of programming languages.
11.02 Explain the need for and use of compilers.
11.03 Explain how compilers work.
11.04 Identify the three types of programming design approaches (e.g., top-down, structured, object-oriented).
11.05 Compare the various types or classes of programming languages (e.g., compiled, interpretive).
11.06 Differentiate among source code, machine code, interpreters, and compilers.
11.07 Characterize the major categories of programming languages and how they are used.
11.08 Create a model flowchart for a computer program.
11.09 Describe the stages in the software development life cycle.
12.0   Demonstrate proficiency using common software applications. The student will be able to:
12.01 Compare and contrast the appropriate use of various software applications (e.g., word processing, desktop publishing, graphics design, web browser, e-mail, presentation, database).
12.02 Demonstrate proficiency in the use of various software applications (e.g., word processing, desktop publishing, graphics design, web browser, e-mail, presentation, database).

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.

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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.

Career and Technical Student Organization (CTSO)

FBLA and BPA 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.

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Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Digital Discoveries in Society**
Program Type: **Orientation/Exploratory**
Career Cluster: **Information Technology**

Secondary – Middle School	
Program Number	9009600
CIP Number	0511020111
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Program Structure** section.
CTSO	FBLA BPA

Purpose

Digital Discoveries in Society is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. In addition to fundamental computer information, the content includes but is not limited to digital technologies associated with problem solving, computer components, internet safety and ethics, web development, animations and games, basic programming techniques, and physical computing. The first six units in the course encourages students to see where computer science exists around them and how they can engage with it as a tool for exploration and expression. Units seven and eight encourage the students to look outward and explore the impact of computer science on society.

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.

Program Structure

This program is a planned year long course.

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 course structure:

Course Number	Course Title	Teacher Certification	Length
9009600	Digital Discoveries in Society	BUS ED 1 @2 COMPU SCI 6 INFO TECH 7G WEB DEV 7G	Year

Standards

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

01.0   Demonstrate an understanding of the problem solving process.
02.0   Identify computer components and their functions.
03.0   Demonstrate an understanding of internet safety and ethics.
04.0   Demonstrate proficiency using the Internet to locate information.
05.0   Demonstrate proficiency in web page development.
06.0   Demonstrate proficiency in animation and games.
07.0   Demonstrate proficiency in basic programming.
08.0   Demonstrate proficiency in physical computing with hardware devices.

Florida Department of Education
Student Performance Standards

Course Title: Digital Discoveries in Society
Course Number: 9009600
Course Length: Year
Grade: 6-8

Course Description:

Digital Discoveries in Society is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. In addition to fundamental computer information, the content includes but is not limited to digital technologies associated with problem solving, computer components, internet safety and ethics, web development, animations and games, basic programming techniques, and physical computing. The first six units in the course encourages students to see where computer science exists around them and how they can engage with it as a tool for exploration and expression. Units seven and eight encourage the students to look outward and explore the impact of computer science on society.

This course may be used with free online coding tools from Scratch.mit.edu, Code.org, Microsoft Makecode, CSfirst.withgoogle.com, CodeAcademy, Khan Academy, Code Combat, Lightbot, Pixlr, etc.

For the last unit on physical computing it is recommended that students have access to one of the following to work on in pairs or in small groups: Circuit Playgrounds, Micro:bits, Raspberry Pi's, Arduino boards, etc.

CTE Standards and Benchmarks
01.0   Demonstrate and understanding of the problem solving process. The student will be able to:
01.01   Identify and explain the four parts of the problem solving process (Define, Prepare, Try, and Reflect).
01.02   Describe the strategies and processes to become a more effective problem solver.
01.03   Explain how computers help people to solve problems.
01.04   Compare and contrast how people and computers approach problems differently.
01.05   Explain what a computer needs from people in order to solve problems effectively.
02.0   Identify computer components and their functions.   The student will be able to:
02.01   Define "computer," and explain why it is important to have a basic understanding of how computers work.
02.02   Describe the four functions of the computing cycle (i.e., input, processing, output, storage).

	02.03	Identify the internal components of a computer (e.g., case, CPU, RAM, ROM, power supply, hard drive, motherboard, expansion cards, cabling).
	02.04	Identify and know how to connect various computer input devices (e.g., mouse, keyboard, phone, camera, scanner, microphone, game controller, stylus, barcode reader, finger print scanner, GPS device, touch pad, graphics tablet) and describe their use.
	02.05	Identify and know how to connect various computer output devices (e.g., monitor, printer, projector, speakers, and headphones) and describe their use.
	02.06	Identify and know how to connect various storage devices (e.g., flash drive, external hard drive (SSD, network drive), memory card, discs, and cloud).
	02.07	Identify various computer connection ports, including USB, FireWire, parallel, serial, Ethernet (RJ-45), RJ-11, HDMI, audio.
	02.08	Illustrate and correctly label the parts of a computer system.
	02.09	Describe how people use computers at home, school and work.
	02.10	Define the term "cloud storage" and explain the advantages and disadvantages of using cloud storage.
03.0		Demonstrate an understanding of Internet safety and ethics. The student will be able to:
	03.01	Describe strong password practices and explain why such practices are needed at school, home and work.
	03.02	Define "privacy" and relate it to the term "digital footprint."
	03.03	Practice cyber safety techniques to protect your personal information when using internet searches, email, chat rooms, and social network websites.
	03.04	Describe cyberbullying, its impact on perpetrators and victims and ways to respond.
	03.05	Describe risks associated with online gaming, and identify ways to reduce these risks.
	03.06	Discuss issues related to downloading music, videos, or images from the Internet, including unethical vs. illegal actions.
	03.07	Compare and contrast rules for copyright and fair use, especially in relation to using online resources for school and educational purposes.
	03.08	Properly cite sources used for images and information obtained from the internet for projects and research
	03.09	Review your district/school Acceptable Use Policies when accessing the Internet and adhere to the AUP while using school equipment, internet and software.
04.0		Demonstrate proficiency using the Internet to locate information. The student will be able to:
	04.01	Identify and use web terminology (WWW, Web Browser, Internet, Web Server, Web Page, Address Bar, Hyperlinks, Navigation Buttons, Search Bar, Bookmarks/Favorites, Tab, Downloading, Plug-ins, and Social Media Plug-ins).
	04.02	Define Universal Resource Locators (URLs) and associated protocols (e.g., http, https, ftp, telnet, mailto).
	04.03	Compare and contrast the types of Internet domains (e.g., .com, .org, .edu, .gov, .net, .mil).

	04.04	Demonstrate proficiency using search engines, including Boolean and other advanced search techniques.
	04.05	Demonstrate proficiency in uploading and downloading files, images, documents and music for class projects and collaboration.
	04.06	Compare and contrast the roles of web browsers and search engines.
	04.07	Evaluate online information for relevance, credibility and quality using basic guidelines and indicators (e.g. authority, affiliation, purpose, bias, date).
	04.08	Distinguish between copyright infringement, plagiarism and fair use in an educational setting and in relation to school projects, especially with music and pictures.
	04.09	Identify and apply copyright and fair use guidelines, and explain plagiarism as an ethical and legal violation.
	04.10	Incorporate results from Internet searches into a research project (e.g., report, summary, website design, app creation, etc.).
	04.11	Download images as needed to support a research project, complying with copyright notices.
	04.12	Properly cite internet sources used to obtain information for a research project.
	04.13	Explain what creative commons licensing is and why it is important to web designers and programmers.
05.0		Demonstrate proficiency in web page development. The student will be able to:
	05.01	Identify website domains, and relate a site's domain name and domain category to its purpose (.gov, .mil, .org, .com, etc.)
	05.02	Relate basic components of a webpage (e.g. color, space, written content, typography, images, links, multimedia) to aesthetic, functional and/or usable design principals.
	05.03	Define aesthetic design, and explain how aesthetics can affect a visitors' perception of a website's information.
	05.04	Demonstrate knowledge of color wheel concepts and effective use of color on a website.
	05.05	Explain the CARP principles of design (contrast, alignment, repetition, proximity), and give an example of how each principle is used in designing aesthetic layouts.
	05.06	Critique the aesthetic design, usability and accessibility of sample websites.
	05.07	Define multimedia, and identify its role in webpage interactivity.
	05.08	Explain the primary steps of the website planning process.
	05.09	Apply the website planning process to plan the design for basic website.
	05.10	Build the site navigation scheme for a website.
	05.11	Define "HTML (Hypertext Markup Language)" and related terms, including tag vs. element, container vs. empty tag, block-level vs. inline element, attribute value, semantic tag.
	05.12	Identify HTML elements required to create webpage structure (!DOCTYPE, html, head, title, body)

	05.13	Create webpages using basic HTML tags (e.g., headings, lists, character styles, text alignment, tables, and comments).
	05.14	Use HTML to create hyperlinks to multiple pages in a website or to outside sources.
	05.15	Use HTML to insert common image file formats into webpages, and use an image as a hyperlink.
	05.16	Explain Cascading Style Sheet (CSS) technology.
	05.17	Apply CSS styles to an HTML page.
	05.18	Review webpage content, verify copyright restrictions, and create meta-data before publishing a site to the internet.
	05.19	Test webpages for display, functionality, and accessibility before publishing a site to the Internet.
	05.20	Validate webpage code using W3C validation tools before publishing a site to the Internet.
	05.21	Describe network issues relating to websites, including bandwidth, compression, streaming, web hosting.
	05.22	Explain the purpose of File Transfer Protocol (FTP) in accessing information on the Internet.
	05.23	Design and create a personal website using HTML and CSS with at least three different pages that are hyperlinked to the homepage.
	05.24	Publish a website.
06.0	Demonstrate proficiency in game development. The student will be able to:	
	06.01	Describe the role of games in modern society (e.g., education, task training, social networking, therapy, recreation).
	06.02	Identify various types of games (e.g., chance, skill, knowledge, role-playing, and storytelling).
	06.03	Identify the steps of the design process for creating a game.
	06.04	Apply the design process to solving a problem.
	06.05	Analyze (deconstruct) existing games.
	06.06	Identify the tools and skills needed for creating games.
	06.07	Identify design criteria and constraints.
	06.08	Create storyboards to model a game's program flow and functionality.
	06.09	Identify the programmer's role in creating games.
	06.10	Identify common programming languages and applications used to create computer games.
	06.11	Compare sequential, iteration (loop) and selection programming structures.

	06.12	Define the term algorithm (i.e., a set of repeatable steps) and how it applies to problem solving.
	06.13	Create an algorithm to solve a problem or complete a task.
	06.14	Use pseudo-code to model a game program's flow.
	06.15	Define logic errors and identify them in a game program or model.
	06.16	Explain the types and uses of variables in game programming.
	06.17	Describe basic Boolean concepts, including logical operators, order of precedence, expressions.
	06.18	Describe the use of events, event handlers and functions in game programming.
	06.19	Describe the use of parameters and arguments in game programming.
	06.20	Describe the use of objects, classes and instances in game programming.
	06.21	Describe the use of properties and methods with objects in game programming.
	06.22	Write appropriate code to create a simple game using structured programming.
	06.23	Test and evaluate the game program you created.
	06.24	Modify the game program as needed to solve a problem.
	06.25	Create an animated object (i.e., sprite) to be used in a game program.
	06.26	Use programming code to control the behavior of an animated object (i.e., sprite) in a game program.
07.0		Demonstrate proficiency in basic programming. The student will be able to:
	07.01	Define "programming" and discuss its role in computing.
	07.02	Explain the binary representation of data and programs in computers.
	07.03	Distinguish among the three types of programming languages (machine, assembly, high-level), and give examples.
	07.04	Compare and contrast languages that are usually compiled (e.g., C++, Java) and interpreted (e.g., JavaScript, Python).
	07.05	Describe the structure of a simple program, and explain why sequencing is important.
	07.06	Write a program design document using pseudo-code that shows program flow.
	07.07	Define the term "algorithm," and explain how it relates to problem-solving.
	07.08	Explain the three types of programming errors (i.e., logic, syntax, runtime), and describe the forms of testing that can be used to locate and debug errors.
	07.09	Solve a problem using logic by planning a strategy, designing and testing a hypothesis, and/or creating a set of step-by-step

		instructions to perform a task.
	07.10	Define "structured programming" and discuss the advantages of this approach.
	07.11	Define the three main programming control structures used in structured programming: sequential, selection (decision), and iteration (loops).
	07.12	Describe iterative programming structures (e.g., while, do/while) and how they are used in programming.
	07.13	Describe selection programming structures (e.g., if/then, else) and explain the logic used for if statements.
	07.14	Write a simple program in pseudo-code that uses structured programming to solve a problem.
	07.15	Explain the types and uses of variables in programming.
	07.16	Describe fundamental Boolean concepts, including Boolean algebra, operators, and logic.
	07.17	Convert a simple program from pseudo-code into a common high-level programming environment.
	07.18	Troubleshoot and debug errors in code.
	07.19	Define "programming" and discuss its role in computing.
08.0	Demonstrate proficiency in physical computing with hardware devices. The student will be able to:	
	08.01	View hardware as an approachable and fun topic in computing.
	08.02	Believe that anyone can contribute to innovation.
	08.03	Use physical computing (aka: Microbits, Circuit Playgrounds, Arduino, Lilypads, Makey-Makey, Piper Kits, Raspberry Pi's, etc.) to solve problems.
	08.04	Determine how computers sense and respond to their environment.
	08.05	Determine the kind of information that can be communicated with hardware outputs.
	08.06	Analyze how simple hardware can be used to develop innovative new products.
	08.07	Define prototype in relation to digital design.
	08.08	Create a prototype of an original game that can be played using a physical computing device.

Additional Information

Laboratory Activities

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Florida Department of Education
Curriculum Framework

Course Title: **Orientation to Career and Technical Occupations and Career Planning**
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Diversified Education**

Secondary – Middle School	
Course Number	9100110
CIP Number	10989999CE
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	BPA, DECA, FBLA-PBL, FCCLA, FFA, FL-TSA, FPSA, HOSA, SkillsUSA

Purpose

The purpose of this course is to give students an opportunity to apply knowledge and skills related to the area of Diversified Education.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9100110	Orientation to Career and Technical Occupations and Career Planning	ANY FIELD WHEN CERT REFLECTS BACHELOR OR HIGHER ANY VOCATIONAL FIELD OR COVERAGE	Semester

Standards

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

01.0   Identify the resources and technology for career planning.
02.0   Identify available career and technical employment opportunities.
03.0   Identify components of self-understanding.
04.0   Define and demonstrate cognitive skills.
05.0   Identify and apply a variety of learning techniques and styles.
06.0   Develop effective communication skills.
07.0   Demonstrate leadership skills.
08.0   Demonstrate workplace readiness skills.

Listed below are the eight career and education planning course standards.

09.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
10.0   Develop skills to locate, evaluate, and interpret career information.
11.0   Identify and demonstrate processes for making short and long term goals.
12.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
13.0   Understand the relationship between educational achievement and career choices/postsecondary options.
14.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
15.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
16.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: Orientation to Career and Technical Occupations
Course Number: 9100110
Course Length: Semester

Course Description:

The purpose of this program is to give students an opportunity to apply knowledge and skills related to the area of Diversified Education.

CTE Standards and Benchmarks
01.0 Identify the resources and technology for career planning. The student will be able to:
01.01 Using a variety of resources, assess personal abilities, temperaments, interests, values, experiences, personality traits, academic abilities, and work preferences.
01.02 Identify non-traditional career options.
01.03 Identify high skill/high wage occupations requiring specialized training with growth potential for future employment.
01.04 Using assessments and inventories, match results to a career goal.
01.05 Describe the steps involved in planning for education, career, and life goals.
01.06 Develop a career plan to include training/education requirements, tasks/responsibilities, employment prospects, and career/advancement opportunities.
01.07 Discuss advantages/disadvantages of entering the military, attending a trade/technical school, and/or enrolling at a community college/four-year university.
01.08 Begin creating a portfolio of documents for job placement.
02.0 Identify available career and technical employment opportunities. The student will be able to:
02.01 Identify employment opportunities in the area of Agriscience and Natural Resources.
02.02 Identify employment opportunities in the area of Construction.
02.03 Identify employment opportunities in the area of Manufacturing.
02.04 Identify employment opportunities in the area of Logistics, Transportation, and Distribution Services.

CTE Standards and Benchmarks		
	02.05	Identify employment opportunities in the area of Information Technology Services.
	02.06	Identify employment opportunities in the area of Wholesale/Retail Sales and Services.
	02.07	Identify employment opportunities in the area of Financial Services.
	02.08	Identify employment opportunities in the area of Hospitality and Tourism.
	02.09	Identify employment opportunities in the area of Business and Administrative Services.
	02.10	Identify employment opportunities in the area of Health Services.
	02.11	Identify employment opportunities in the area of Human Services.
	02.12	Identify employment opportunities in the area of Arts and Communication Services.
	02.13	Identify employment opportunities in the area of Legal and Protective Services.
	02.14	Identify employment opportunities in the area of Scientific, Engineering, and Technical Services.
03.0	Identify components of self-understanding. The student will be able to:	
	03.01	Explain how values are acquired and changed.
	03.02	Explain how work is affected by values.
	03.03	Identify how individuals from diverse backgrounds offer unique contributions.
	03.04	Discuss methods for adapting learning styles to the method of instructional delivery.
04.0	Define and demonstrate cognitive skills. The student will be able to:	
	04.01	Describe importance of time management to complete tasks accurately and on time.
	04.02	Outline strategies for effective time management.
	04.03	Describe role and relationship between values, aptitudes, abilities, and goal setting and attainment of academic and occupational skills.
	04.04	Set personal goals and develop a plan of action to achieve those goals.
	04.05	Identify problems and consequences of meeting goals.
	04.06	Describe ways to deal with success and failure.

CTE Standards and Benchmarks

	04.07	Exhibit awareness of and respect for others.
	04.08	Demonstrate ways to improve test-taking skills, including preparing for standardized tests.
	04.09	Explain the steps in decision making.
	04.10	Identify the process involved in problem solving.
	04.11	Develop an action plan for solving problems and making decisions.
	04.12	Identify strategies for building self-esteem and enhancing decision-making skills.
	04.13	Demonstrate knowledge of the planning process.
	04.14	Demonstrate ability to think creatively and generate new ideas.
	04.15	Demonstrate the ability to conduct a systematic analysis of personal strengths and weaknesses.
05.0		Identify and apply a variety of learning techniques and styles. The student will be able to:
	05.01	Describe the advantages of good note taking/outlining and listening skills.
	05.02	Explain and apply a variety of strategies for knowledge retention of specific data, etc.
	05.03	Describe and apply study techniques.
	05.04	Discuss and employ a variety of test-taking strategies.
	05.05	Discuss the seven intelligences as identified by Howard Gardner (musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal).
	05.06	Discuss styles of learning as identified by Anthony Gregorc (concrete sequential, abstract sequential, abstract random, concrete random).
	05.07	Identify learning style as auditory language, visual language, auditory numerical, visual numerical, and/or auditory-visual-kinesthetic combination.
06.0		Develop effective communication skills. The student will be able to:
	06.01	Identify the effectiveness of assertive, aggressive, and passive communication.
	06.02	Dramatize the impact of non-verbal behavior on communication.
	06.03	Develop ways to provide effective feedback and deal with criticism.
	06.04	Describe the importance of the proper use of grammar, vocabulary, diction, and etiquette.

CTE Standards and Benchmarks		
	06.05	Demonstrate ability to communicate in a multicultural setting.
	06.06	Demonstrate ability to listen to, follow, and provide directions.
	06.07	Participate in group and committee discussions to reach group consensus.
	06.08	Write, edit, and revise a communication so that it presents information in a clear, correct, concise, complete, consistent, and courteous manner.
07.0	Demonstrate leadership skills. The student will be able to:	
	07.01	Demonstrate ability to negotiate, resolve conflict through peer mediation, handle stress, deal with undesirable behavior in others, share in task accomplishment, and build positive working relationships with others.
	07.02	Identify characteristics of a leader and team member.
	07.03	Define and practice brainstorming.
	07.04	Describe the use of teams to increase productivity.
	07.05	Demonstrate business and social etiquette.
08.0	Demonstrate workplace readiness skills. The student will be able to:	
	08.01	Identify resources used in a job search.
	08.02	Discuss importance of drug tests and criminal background checks in identifying possible employment options.
	08.03	Identify steps of the job application process including arranging for references and proper documentation (e.g., green card).
	08.04	Demonstrate appropriate dress and grooming for employment.
	08.05	Identify documents that may be required when applying for a job.
	08.06	Prepare a résumé (electronic and traditional), letter of application, follow-up letter, acceptance/rejection letter, letter of resignation, letter of recommendation.
	08.07	Complete a job application form neatly, legibly, and error free.
	08.08	Demonstrate competence in job interview techniques (behavioral).

Listed below are the eight career and education planning course standards:

The student will be able to:

CTE Standards and Benchmarks	
09.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
10.0	Develop skills to locate, evaluate, and interpret career information.
11.0	Identify and demonstrate processes for making short and long term goals.
12.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
13.0	Understand the relationship between educational achievement and career choices/postsecondary options.
14.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
15.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
16.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career and Technical Student Organization (CTSO)

The following list identifies the appropriate career and technical student organizations for providing leadership training and reinforcing specific career and technical skills: Business Professionals of America (BPA); DECA; Family, Career and Community Leaders of America (FCCLA); FFA; Florida Public Service Association (FPSA); Florida Technology Student Association (FL-TSA); Future Business Leaders of America – Phi Beta Lambda (FBLA-PBL); HOSA – Future Health Professionals (HOSA); SkillsUSA. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available

free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Exploration of Career and Technical Occupations**
Course Type: **Orientation/Exploratory**
Career Cluster: **Diversified Education**

Secondary – Middle School	
Course Number	9100210
CIP Number	10989999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	N/A

Purpose

The purpose of this course is to give students an opportunity to apply knowledge and skills related to the area of Exploration of Career and Technical Occupations. To give students initial exposure to the skills and attitudes associated with occupations in a diverse range of careers.

The content of this course will consist of the content contained in two or more existing exploration courses and may include instruction in making a career choice and the basic employability skills needed to locate, secure, and maintain employment.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9100210	Exploration of Career and Technical Occupations	ANY FIELD WHEN CERT REFLECTS BACHELOR OR HIGHER ANY VOCATIONAL FIELD OR COVERAGE COOR WK EXP @7 7G	Semester

Standards

The intended outcomes for this course will be those outcomes that are selected from other exploration courses and may also include instruction in making a career choice and in the basic employability skills needed to locate, secure, and maintain employment.

Additional Information

Laboratory Activities

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

Florida 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Orientation to Career and Technical Occupations
Course Type: Orientation/Exploratory
Career Cluster: Diversified Education

Secondary – Middle School	
Course Number	9100310
CIP Number	10989999OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	BPA, DECA, FBLA-PBL, FCCLA, FFA, FL-TSA, FPSA, HOSA, SkillsUSA

Purpose

The purpose of this course is to give students an opportunity to apply knowledge and skills related to the area of Orientation to Career and Technical Occupations.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9100310	Orientation to Career and Technical Occupations	ANY FIELD WHEN CERT REFLECTS BACHELOR OR HIGHER ANY VOCATIONAL FIELD OR COVERAGE	Semester

Standards

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

01.0   Identify the resources and technology for career planning.
02.0   Identify available career and technical employment opportunities.
03.0   Identify components of self-understanding.
04.0   Define and demonstrate cognitive skills.
05.0   Identify and apply a variety of learning techniques and styles.
06.0   Develop effective communication skills.
07.0   Demonstrate leadership skills.
08.0   Demonstrate workplace readiness skills.

Florida Department of Education
Student Performance Standards

Course Title: Orientation to Career and Technical Occupations
Course Number: 9100310
Course Length: Semester

CTE Standards and Benchmarks
01.0 Identify the resources and technology for career planning. The student will be able to:
01.01 Using a variety of resources, assess personal abilities, temperaments, interests, values, experiences, personality traits, academic abilities, and work preferences.
01.02 Identify non-traditional career options.
01.03 Identify high skill/high wage occupations requiring specialized training with growth potential for future employment.
01.04 Using assessments and inventories, match results to a career goal.
01.05 Describe the steps involved in planning for education, career, and life goals.
01.06 Develop a career plan to include training/education requirements, tasks/responsibilities, employment prospects, and career/advancement opportunities.
01.07 Discuss advantages/disadvantages of entering the military, attending a trade/technical school, and/or enrolling at a community college/four-year university.
01.08 Begin creating a portfolio of documents for job placement.
02.0 Identify available career and technical employment opportunities. The student will be able to:
02.01 Identify employment opportunities in the area of Agriscience and Natural Resources.
02.02 Identify employment opportunities in the area of Construction.
02.03 Identify employment opportunities in the area of Manufacturing.
02.04 Identify employment opportunities in the area of Logistics, Transportation, and Distribution Services.
02.05 Identify employment opportunities in the area of Information Technology Services.
02.06 Identify employment opportunities in the area of Wholesale/Retail Sales and Services.
02.07 Identify employment opportunities in the area of Financial Services.

	02.08	Identify employment opportunities in the area of Hospitality and Tourism.
	02.09	Identify employment opportunities in the area of Business and Administrative Services.
	02.10	Identify employment opportunities in the area of Health Services.
	02.11	Identify employment opportunities in the area of Human Services.
	02.12	Identify employment opportunities in the area of Arts and Communication Services.
	02.13	Identify employment opportunities in the area of Legal and Protective Services.
	02.14	Identify employment opportunities in the area of Scientific, Engineering, and Technical Services.
03.0		Identify components of self-understanding. The student will be able to:
	03.01	Explain how values are acquired and changed.
	03.02	Explain how work is affected by values.
	03.03	Identify how individuals from diverse backgrounds offer unique contributions.
	03.04	Discuss methods for adapting learning styles to the method of instructional delivery.
04.0		Define and demonstrate cognitive skills. The student will be able to:
	04.01	Describe importance of time management to complete tasks accurately and on time.
	04.02	Outline strategies for effective time management.
	04.03	Describe role and relationship between values, aptitudes, abilities, and goal setting and attainment of academic and occupational skills.
	04.04	Set personal goals and develop a plan of action to achieve those goals.
	04.05	Identify problems and consequences of meeting goals.
	04.06	Describe ways to deal with success and failure.
	04.07	Exhibit awareness of and respect for others.
	04.08	Demonstrate ways to improve test-taking skills, including preparing for standardized tests.
	04.09	Explain the steps in decision-making.

CTE Standards and Benchmarks

	04.10	Identify the process involved in problem solving.
	04.11	Develop an action plan for solving problems and making decisions.
	04.12	Identify strategies for building self-esteem and enhancing decision-making skills.
	04.13	Demonstrate knowledge of the planning process.
	04.14	Demonstrate ability to think creatively and generate new ideas.
	04.15	Demonstrate the ability to conduct a systematic analysis of personal strengths and weaknesses.
05.0	Identify and apply a variety of learning techniques and styles. The student will be able to:	
	05.01	Describe the advantages of good note taking/outlining and listening skills.
	05.02	Explain and apply a variety of strategies for knowledge retention of specific data, etc.
	05.03	Describe and apply study techniques.
	05.04	Discuss and employ a variety of test-taking strategies.
	05.05	Discuss the seven intelligences as identified by Howard Gardner (musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, intrapersonal).
	05.06	Discuss styles of learning as identified by Anthony Gregorc (concrete sequential, abstract sequential, abstract random, concrete random).
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06.0	Develop effective communication skills. The student will be able to:	
	06.01	Identify the effectiveness of assertive, aggressive, and passive communication.
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	06.05	Demonstrate ability to communicate in a multicultural setting.
	06.06	Demonstrate ability to listen to, follow, and provide directions.
	06.07	Participate in group and committee discussions to reach group consensus.

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	06.08 Write, edit, and revise a communication so that it presents information in a clear, correct, concise, complete, consistent, and courteous manner.
07.0	Demonstrate leadership skills. The student will be able to:
	07.01 Demonstrate ability to negotiate, resolve conflict through peer mediation, handle stress, deal with undesirable behavior in others, share in task accomplishment, and build positive working relationships with others.
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Additional Information

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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.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Law, Public Safety and Security**
Course Type: **Orientation/Exploratory**
Career Cluster: **Law, Public Safety and Security**

Secondary – Middle School	
Program Number	9160350
CIP Number	149160350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	N/A

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Introduction to Law, Public Safety and Security career cluster Thousands of challenging educational and training opportunities are offered in the highly skilled Law, Public Safety, Corrections and Security Career Cluster. These opportunities continue to expand in the areas of corporate, industrial, homeland security and public safety. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

This program is a planned sequence of instruction consisting of one course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9160350	Introduction to Law, Public Safety and Security	LAW ENF@7 7 G CORR OFF 7 G ANY PUB SERV OCC ED G	Semester

Standards

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

01.0   Demonstrate an understanding of the Emergency and fire management career pathway.
02.0   Demonstrate an understanding of the Security and protective services career pathway.
03.0   Demonstrate an understanding of the Law enforcement services career pathway.
04.0   Demonstrate an understanding of the Legal services career pathway.
05.0   Demonstrate an understanding of the Correction services career pathway.
06.0   Apply leadership and communication skills.
07.0   Describe how information technology is used in the Law, Public Safety and Security career cluster.
08.0   Use information technology tools.
09.0   Identify components of Criminal Investigations.
10.0   Describe and use communication protocols for Law, Public Safety & Security career cluster.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Law, Public Safety and Security**
Course Number: **9160350**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Introduction to Law, Public Safety and Security career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Introduction to Law, Public Safety and Security career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Emergency and Fire Management Services career pathway. – The student will be able to:
01.01 Define and use proper terminology associated with the Emergency and Fire Management Services career pathway.
01.02 Describe some of the careers available in the Emergency and Fire Management Services career pathway.
01.03 Identify common characteristics of the careers in the Emergency and Fire Management Services career pathway.
01.04 Research the history of the Emergency and Fire Management Services career pathway and describe how the careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Emergency and Fire Management Services career pathway.
01.06 Describe technologies associated in careers within the Correction Services career pathway.
02.0 Demonstrate an understanding of the Security and protective services career pathway. – The student will be able to:
02.01 Define and use proper terminology associated with the Security and protective services career pathway.
02.02 Describe some of the careers available in the Security and protective services career pathway.
02.03 Identify common characteristics of the careers in the Security and protective services career pathway.
02.04 Research the history of the Security and protective services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Security and protective services career pathway.
02.06 Describe technologies associated in careers within the Security and protective services career pathway.
03.0 Demonstrate an understanding of the Law enforcement services career pathway. – The student will be able to:

CTE Standards and Benchmarks

	03.01	Define and use proper terminology associated with the Law enforcement services career pathway.
	03.02	Describe some of the careers available in the Law enforcement services career pathway to include: a. Law Enforcement b. K-9 c. Dispatch d. Traffic Enforcement e. Investigations f. Agriculture Officer g. Marine Patrol h. Aviation Officer
	03.03	Research the history of the Law enforcement services career pathway and describe how the careers have evolved and impacted society from the 1970's to present day.
	03.04	Identify skills required to successfully enter any career in the Law enforcement services career pathway to include: a. FBI Academy b. FLETC c. Florida Law Enforcement Academy
	03.05	Describe technologies associated in careers within the Law enforcement services career pathway to include: a. Forensics b. Cyber Crime c. Crime Prevention
04.0	Demonstrate an understanding of the Legal services career pathway. – The student will be able to:	
	04.01	Define and use proper terminology associated with the Legal services career pathway.
	04.02	Describe some of the careers available in the Legal services career pathway.
	04.03	Identify common characteristics of the careers in the Legal services career pathway.
	04.04	Research the history of the Legal services career pathway and describe how the associated careers have evolved and impacted society.
	04.05	Identify skills required to successfully enter any career in the Legal services career pathway.
	04.06	Describe technologies associated in careers within the Legal services career pathway.
05.0	Demonstrate an understanding of the Correction services career pathway. – The student will be able to:	
	05.01	Define and use proper terminology associated with the Correction services career pathway for officer level.
	05.02	Describe some of the careers available in the Correction services career pathway to include: a. Officer b. Probation

		c. Psychology
		d. Medical
		e. Social Services
		f. Food Services
		g. Gang Investigators
	05.03	Identify common characteristics of the careers in the Correction services career pathway.
	05.04	Research the history of the Correction services career pathway and describe how the careers have evolved and impacted society from 1970's to present.
	05.05	Identify skills required to successfully enter any career in the Correction services career pathway to include: a. Prison Construction b. Digital Courts c. Audio/Visual Monitoring
	05.06	Describe technologies associated in careers within the Correction services career pathway.
06.0	Apply leadership and communication skills. – The student will be able to:	
	06.01	Discuss the establishment and history of the FPSA organization.
	06.02	Identify the characteristics and responsibilities of organizational leaders.
	06.03	Demonstrate parliamentary procedure skills during a meeting.
	06.04	Participate on a committee which has an assigned task and report to the class.
	06.05	Demonstrate effective communication skills through delivery of a speech, a powerpoint, or conducting a demonstration.
	06.06	Use a computer to assist in the completion of a project related to the Law, Public Safety and Security career cluster.
07.0	Describe how information technology is used in the Law, Public Safety and Security career cluster. – The student will be able to:	
	07.01	Identify information technology (IT) careers in the Law, Public Safety and Security career cluster, including the responsibilities, tasks and skills they require to include: a. NCIC/FCIC b. CAD System in Dispatch c. Computer Forensics d. Encryption
	07.02	Research information technology career for a presentation.
	07.03	Identify security-related ethical and legal IT issues faced by professionals in the Law, Public Safety and Security career cluster to include: a. confidentiality b. personal information (personal computer use)

CTE Standards and Benchmarks
08.0   Use information technology tools. – The student will be able to:
08.01   Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in Law, Public Safety and Security career cluster.
08.02   Use e-mail clients to send simple messages and files to other Internet users.
08.03   Demonstrate ways to communicate effectively using Internet technology.
08.04   Use different types of web search engines effectively to locate information relevant to the Law, Public Safety and Security career cluster.
09.0   Identify components of Criminal Investigations.—The student will be able to:

09.01   Describe some careers available in criminal investigations to include:
     a.   crime scene technician
     b.   crime lab technician

09.02   Identify evidence is at a crime scene.
09.03   Describe how to collect evidence at a crime scene.
09.04   Demonstrate the skills for lifting latent prints.
09.05   Participate in processing a mock crime scene.
10.0   Describe and use communication protocols for Law, Public Safety & Security career cluster.-- The student will be able to:
10.01   Define what a MDT (Mobile Data Terminal) and how it is used.
10.02   Describe the different types of dispatching organizations.
10.03   Identify the correct identification of the phonetic alphabet.
10.04   Identify and use proper radio procedures for communicating.

Additional Information

Laboratory Activities

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

Florida 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Introduction to Law, Public Safety and Security and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Law, Public Safety and Security

Secondary – Middle School	
Program Number	9160360
CIP Number	149160360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	N/A

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Introduction to Law, Public Safety and Security career cluster Thousands of challenging educational and training opportunities are offered in the highly skilled Law, Public Safety, and Security Career Cluster. These opportunities continue to expand in the areas of corporate, industrial, homeland security and public safety. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

This program is a planned sequence of instruction consisting of one course.

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9160360	Introduction to Law, Public Safety and Security and Career Planning	LAW ENF@7 7 G CORR OFF 7 G ANY PUB SERV OCC ED G	Semester

Standards

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

01.0   Demonstrate an understanding of the Emergency and fire management career pathway.
02.0   Demonstrate an understanding of the Security and protective services career pathway.
03.0   Demonstrate an understanding of the Law enforcement services career pathway.
04.0   Demonstrate an understanding of the Legal services career pathway.
05.0   Demonstrate an understanding of the Correction services career pathway.
06.0   Apply leadership and communication skills.
07.0   Describe how information technology is used in the Law, Public Safety and Security career cluster.
08.0   Use information technology tools.
09.0   Identify components of Criminal Investigations.
10.0   Describe and use communication protocols for Law, Public Safety & Security career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:

11.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0   Develop skills to locate, evaluate, and interpret career information.
13.0   Identify and demonstrate processes for making short and long term goals.
14.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0   Understand the relationship between educational achievement and career choices/postsecondary options.
16.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Law, Public Safety and Security and Career Planning**
Course Number: **9160360**
Course Credit: **Semester**

Course Description:

Beginning with a broad overview of the Introduction to Law, Public Safety and Security career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Introduction to Law, Public Safety and Security career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Emergency and Fire Management Services career pathway. – The student will be able to:
01.01 Define and use proper terminology associated with the Emergency and Fire Management Services career pathway.
01.02 Describe some of the careers available in the Emergency and Fire Management Services career pathway.
01.03 Identify common characteristics of the careers in the Emergency and Fire Management Services career pathway.
01.04 Research the history of the Emergency and Fire Management Services career pathway and describe how the careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Emergency and Fire Management Services career pathway.
01.06 Describe technologies associated in careers within the Correction Services career pathway.
02.0 Demonstrate an understanding of the Security and protective services career pathway. – The student will be able to:
02.01 Define and use proper terminology associated with the Security and protective services career pathway.
02.02 Describe some of the careers available in the Security and protective services career pathway.
02.03 Identify common characteristics of the careers in the Security and protective services career pathway.
02.04 Research the history of the Security and protective services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Security and protective services career pathway.
02.06 Describe technologies associated in careers within the Security and protective services career pathway.
03.0 Demonstrate an understanding of the Law enforcement services career pathway. – The student will be able to:

	03.01	Define and use proper terminology associated with the Law enforcement services career pathway.
	03.02	Describe some of the careers available in the Law enforcement services career pathway to include: a. Law Enforcement b. K-9 c. Dispatch d. Traffic Enforcement e. Investigations f. Agriculture Officer g. Marine Patrol h. Aviation Officer
	03.03	Research the history of the Law enforcement services career pathway and describe how the careers have evolved and impacted society from the 1970's to present day.
	03.04	Identify skills required to successfully enter any career in the Law enforcement services career pathway to include: a. FBI Academy b. FLETC c. Florida Law Enforcement Academy
	03.05	Describe technologies associated in careers within the Law enforcement services career pathway to include: a. Forensics b. Cyber Crime c. Crime Prevention
04.0	Demonstrate an understanding of the Legal services career pathway. – The student will be able to:	
	04.01	Define and use proper terminology associated with the Legal services career pathway.
	04.02	Describe some of the careers available in the Legal services career pathway.
	04.03	Identify common characteristics of the careers in the Legal services career pathway.
	04.04	Research the history of the Legal services career pathway and describe how the associated careers have evolved and impacted society.
	04.05	Identify skills required to successfully enter any career in the Legal services career pathway.
	04.06	Describe technologies associated in careers within the Legal services career pathway.
05.0	Demonstrate an understanding of the Correction services career pathway. – The student will be able to:	
	05.01	Define and use proper terminology associated with the Correction services career pathway for officer level.
	05.02	Describe some of the careers available in the Correction services career pathway to include: a. Officer b. Probation c. Psychology d. Medical

		e. Social Services
		f. Food Services
		g. Gang Investigators
	05.03	Identify common characteristics of the careers in the Correction services career pathway.
	05.04	Research the history of the Correction services career pathway and describe how the careers have evolved and impacted society from 1970's to present.
	05.05	Identify skills required to successfully enter any career in the Correction services career pathway to include: a. Prison Construction b. Digital Courts c. Audio/Visual Monitoring
	05.06	Describe technologies associated in careers within the Correction services career pathway.
06.0	**Apply leadership and communication skills. – The student will be able to:**	
	06.01	Discuss the establishment and history of the FPSA organization.
	06.02	Identify the characteristics and responsibilities of organizational leaders.
	06.03	Demonstrate parliamentary procedure skills during a meeting.
	06.04	Participate on a committee which has an assigned task and report to the class.
	06.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	06.06	Use a computer to assist in the completion of a project related to the Law, Public Safety and Security career cluster.
07.0	**Describe how information technology is used in the Law, Public Safety and Security career cluster. – The student will be able to:**	
	07.01	Identify information technology (IT) careers in the Law, Public Safety and Security career cluster, including the responsibilities, tasks and skills they require to include: a. NCIC/FCIC b. CAD System in Dispatch c. Computer Forensics d. Encryption
	07.02	Research information technology career for a presentation.
	07.03	Identify security-related ethical and legal IT issues faced by professionals in the Law, Public Safety and Security career cluster to include: a. confidentiality b. personal information (personal computer use)
08.0	**Use information technology tools. – The student will be able to:**	
	08.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in Law, Public Safety and Security career cluster.

	08.02	Use e-mail clients to send simple messages and files to other Internet users.
	08.03	Demonstrate ways to communicate effectively using Internet technology.
	08.04	Use different types of web search engines effectively to locate information relevant to the Law, Public Safety and Security career cluster.
09.0	Identify components of Criminal Investigations.—The student will be able to:	
	09.01	Describe some careers available in criminal investigations to include: a. crime scene technician b. crime lab technician
	09.02	Identify evidence is at a crime scene.
	09.03	Describe how to collect evidence at a crime scene.
	09.04	Demonstrate the skills for lifting latent prints.
	09.05	Participate in processing a mock crime scene.
10.0	Describe and use communication protocols for Law, Public Safety & Security career cluster.-- The student will be able to:	
	10.01	Define what a MDT (Mobile Data Terminal) and how it is used.
	10.02	Describe the different types of dispatching organizations.
	10.03	Identify the correct identification of the phonetic alphabet.
	10.04	Identify and use proper radio procedures for communicating.
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes—the students will be able to:		
11.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.	
12.0	Develop skills to locate, evaluate, and interpret career information.	
13.0	Identify and demonstrate processes for making short and long term goals.	
14.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills.	
15.0	Understand the relationship between educational achievement and career choices/postsecondary options.	
16.0	Identify a career cluster and related pathways that match career and education goals.	
17.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.	

18.0   Demonstrate knowledge of technology and its application in career fields/clusters.

<h2 style="text-align:center">Additional Information</h2>

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Manufacturing**
Course Type: **Orientation/Exploratory**
Career Cluster: **Manufacturing**

Secondary – Middle School	
Course Number	9260350
CIP Number	149260350M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section
CTSO	FL-TSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the manufacturing career cluster. The content includes but is not limited to planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9260350	Introduction to Manufacturing	AUTO PROD 7G ELECTRONIC @7 7G ENG 7G IND ENGR 7G TEC ED 1 @ 2	Semester

Standards

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

01.0   Demonstrate an understanding of the Production career pathway.
02.0   Demonstrate an understanding of the Manufacturing Production Process Development career pathway.
03.0   Demonstrate an understanding of the Maintenance, Installation and Repair career pathway.
04.0   Demonstrate an understanding of the Quality Assurance career pathway.
05.0   Demonstrate an understanding of the Logistics and Inventory Control career pathway.
06.0   Demonstrate an understanding of the Health, Safety and Environmental Assurance career pathway.
07.0   Apply leadership and communication skills.
08.0   Describe how information technology is used in the Manufacturing career cluster.
09.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Manufacturing**
Course Number: **9260350**
Course Length: **Semester**

Course Description:
Beginning with a broad overview of the manufacturing career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the manufacturing career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Production career pathway.--The student will be able to:
01.01 Define and use proper terminology associated with the Production career pathway.
01.02 Describe some of the careers available in the Production career pathway.
01.03 Identify common characteristics of the careers in the Production career pathway.
01.04 Research the history of the Production career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Production career pathway.
01.06 Describe technologies associated in careers within the Production career pathway.
02.0 Demonstrate an understanding of the Manufacturing Production Process Development career pathway.--The student will be able to:
02.01 Define and use proper terminology associated with the Manufacturing Production Process Development career pathway.
02.02 Describe some of the careers available in the Manufacturing Production Process Development career pathway.
02.03 Identify common characteristics of the careers in the Manufacturing Production Process Development career pathway.
02.04 Research the history of the Manufacturing Production Process Development career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Manufacturing Production Process Development career pathway.
02.06 Describe technologies associated in careers within the Manufacturing Production Process Development career pathway.
03.0 Demonstrate an understanding of the Maintenance, Installation and Repair career pathway.--The student will be able to:

CTE Standards and Benchmarks	
	03.01 Define and use proper terminology associated with the Maintenance, Installation and Repair career pathway.
	03.02 Describe some of the careers available in the Maintenance, Installation and Repair career pathway.
	03.03 Identify common characteristics of the careers in the Maintenance, Installation and Repair career pathway.
	03.04 Research the history of the Maintenance, Installation and Repair career pathway and describe how the careers have evolved and impacted society.
	03.05 Identify skills required to successfully enter any career in the Maintenance, Installation and Repair career pathway.
	03.06 Describe technologies associated in careers within the Maintenance, Installation and Repair career pathway.
04.0	Demonstrate an understanding of the Quality Assurance career pathway.--The student will be able to:
	04.01 Define and use proper terminology associated with the Quality Assurance career pathway.
	04.02 Describe some of the careers available in the Quality Assurance career pathway.
	04.03 Identify common characteristics of the careers in the Quality Assurance career pathway.
	04.04 Research the history of the Quality Assurance career pathway and describe how the careers have evolved and impacted society.
	04.05 Identify skills required to successfully enter any career in the Quality Assurance career pathway.
	04.06 Describe technologies associated in careers within the Quality Assurance career pathway.
05.0	Demonstrate an understanding of the Logistics and Inventory Control career pathway.--The student will be able to:
	05.01 Define and use proper terminology associated with the Logistics and Inventory Control career pathway.
	05.02 Describe some of the careers available in the Logistics and Inventory Control career pathway.
	05.03 Identify common characteristics of the careers in the Logistics and Inventory Control career pathway.
	05.04 Research the history of the Logistics and Inventory Control career pathway and describe how the careers have evolved and impacted society.
	05.05 Identify skills required to successfully enter any career in the Logistics and Inventory Control career pathway.
	05.06 Describe technologies associated in careers within the Logistics and Inventory Control career pathway.
06.0	Demonstrate an understanding of the Health, Safety and Environmental Assurance career pathway.--The student will be able to:
	06.01 Define and use proper terminology associated with the Health, Safety and Environmental Assurance career pathway.
	06.02 Describe some of the careers available in the Health, Safety and Environmental Assurance career pathway.

	06.03	Identify common characteristics of the careers in the Health, Safety and Environmental Assurance career pathway.
	06.04	Research the history of the Health, Safety and Environmental Assurance career pathway and describe how the careers have evolved and impacted society.
	06.05	Identify skills required to successfully enter any career in the Health, Safety and Environmental Assurance career pathway.
	06.06	Describe technologies associated in careers within the Health, Safety and Environmental Assurance career pathway.
07.0	Apply leadership and communication skills.--The student will be able to:	
	07.01	Discuss the establishment and history of the FL-TSA organization.
	07.02	Identify the characteristics and responsibilities of organizational leaders.
	07.03	Demonstrate parliamentary procedure skills during a meeting.
	07.04	Participate on a committee which has an assigned task and report to the class.
	07.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	07.06	Use a computer to assist in the completion of a project related to the manufacturing career cluster.
08.0	Describe how information technology is used in the manufacturing career cluster.--The student will be able to:	
	08.01	Identify information technology (IT) careers in the manufacturing career cluster, including the responsibilities, tasks and skills they require.
	08.02	Relate information technology project management concepts and terms to careers in the manufacturing career cluster.
	08.03	Manage information technology components typically used in professions of the manufacturing career cluster.
	08.04	Identify security-related ethical and legal IT issues faced by professionals in the manufacturing career cluster.
09.0	Use information technology tools.--The student will be able to:	
	09.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the manufacturing career cluster.
	09.02	Use e-mail clients to send simple messages and files to other Internet users.
	09.03	Demonstrate ways to communicate effectively using Internet technology.
	09.04	Use different types of web search engines effectively to locate information relevant to the manufacturing career cluster.

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.

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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.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

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. 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.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Manufacturing and Career Planning***
Course Type: **Orientation/Exploratory**
Career Cluster: **Manufacturing**

Secondary – Middle School	
Course Number	9260360
CIP Number	149260360M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FL-TSA

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the manufacturing career cluster. The content includes but is not limited to planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9260360	Introduction to Manufacturing and Career Planning	AUTO PROD 7G ELECTRONIC @7 7G ENG 7G IND ENGR 7G TEC ED 1 @ 2	Semester

Standards

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

01.0   Demonstrate an understanding of the Production career pathway.
02.0   Demonstrate an understanding of the Manufacturing Production Process Development career pathway.
03.0   Demonstrate an understanding of the Maintenance, Installation and Repair career pathway.
04.0   Demonstrate an understanding of the Quality Assurance career pathway.
05.0   Demonstrate an understanding of the Logistics and Inventory Control career pathway.
06.0   Demonstrate an understanding of the Health, Safety and Environmental Assurance career pathway.
07.0   Apply leadership and communication skills.
08.0   Describe how information technology is used in the Manufacturing career cluster.
09.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

10.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
11.0   Develop skills to locate, evaluate, and interpret career information.
12.0   Identify and demonstrate processes for making short and long term goals.
13.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
14.0   Understand the relationship between educational achievement and career choices/postsecondary options.
15.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
16.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
17.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Manufacturing and Career Planning**
Course Number: **9260360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the manufacturing career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the manufacturing career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Production career pathway.--The student will be able to:
01.01 Define and use proper terminology associated with the Production career pathway.
01.02 Describe some of the careers available in the Production career pathway.
01.03 Identify common characteristics of the careers in the Production career pathway.
01.04 Research the history of the Production career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Production career pathway.
01.06 Describe technologies associated in careers within the Production career pathway.
02.0   Demonstrate an understanding of the Manufacturing Production Process Development career pathway.--The student will be able to:
02.01 Define and use proper terminology associated with the Manufacturing Production Process Development career pathway.
02.02 Describe some of the careers available in the Manufacturing Production Process Development career pathway.
02.03 Identify common characteristics of the careers in the Manufacturing Production Process Development career pathway.
02.04 Research the history of the Manufacturing Production Process Development career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Manufacturing Production Process Development career pathway.
02.06 Describe technologies associated in careers within the Manufacturing Production Process Development career pathway.

CTE Standards and Benchmarks
03.0   Demonstrate an understanding of the Maintenance, Installation and Repair career pathway.--The student will be able to:
03.01   Define and use proper terminology associated with the Maintenance, Installation and Repair career pathway.
03.02   Describe some of the careers available in the Maintenance, Installation and Repair career pathway.
03.03   Identify common characteristics of the careers in the Maintenance, Installation and Repair career pathway.
03.04   Research the history of the Maintenance, Installation and Repair career pathway and describe how the careers have evolved and impacted society.
03.05   Identify skills required to successfully enter any career in the Maintenance, Installation and Repair career pathway.
03.06   Describe technologies associated in careers within the Maintenance, Installation and Repair career pathway.
04.0   Demonstrate an understanding of the Quality Assurance career pathway.--The student will be able to:
04.01   Define and use proper terminology associated with the Quality Assurance career pathway.
04.02   Describe some of the careers available in the Quality Assurance career pathway.
04.03   Identify common characteristics of the careers in the Quality Assurance career pathway.
04.04   Research the history of the Quality Assurance career pathway and describe how the careers have evolved and impacted society.
04.05   Identify skills required to successfully enter any career in the Quality Assurance career pathway.
04.06   Describe technologies associated in careers within the Quality Assurance career pathway.
05.0   Demonstrate an understanding of the Logistics and Inventory Control career pathway.--The student will be able to:
05.01   Define and use proper terminology associated with the Logistics and Inventory Control career pathway.
05.02   Describe some of the careers available in the Logistics and Inventory Control career pathway.
05.03   Identify common characteristics of the careers in the Logistics and Inventory Control career pathway.
05.04   Research the history of the Logistics and Inventory Control career pathway and describe how the careers have evolved and impacted society.
05.05   Identify skills required to successfully enter any career in the Logistics and Inventory Control career pathway.
05.06   Describe technologies associated in careers within the Logistics and Inventory Control career pathway.
06.0   Demonstrate an understanding of the Health, Safety and Environmental Assurance career pathway.--The student will be able to:
06.01   Define and use proper terminology associated with the Health, Safety and Environmental Assurance career pathway.

	06.02	Describe some of the careers available in the Health, Safety and Environmental Assurance career pathway.
	06.03	Identify common characteristics of the careers in the Health, Safety and Environmental Assurance career pathway.
	06.04	Research the history of the Health, Safety and Environmental Assurance career pathway and describe how the careers have evolved and impacted society.
	06.05	Identify skills required to successfully enter any career in the Health, Safety and Environmental Assurance career pathway.
	06.06	Describe technologies associated in careers within the Health, Safety and Environmental Assurance career pathway.
07.0	Apply leadership and communication skills.--The student will be able to:	
	07.01	Discuss the establishment and history of the FL-TSA organization.
	07.02	Identify the characteristics and responsibilities of organizational leaders.
	07.03	Demonstrate parliamentary procedure skills during a meeting.
	07.04	Participate on a committee which has an assigned task and report to the class.
	07.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	07.06	Use a computer to assist in the completion of a project related to the manufacturing career cluster.
08.0	Describe how information technology is used in the manufacturing career cluster.--The student will be able to:	
	08.01	Identify information technology (IT) careers in the manufacturing career cluster, including the responsibilities, tasks and skills they require.
	08.02	Relate information technology project management concepts and terms to careers in the manufacturing career cluster.
	08.03	Manage information technology components typically used in professions of the manufacturing career cluster.
	08.04	Identify security-related ethical and legal IT issues faced by professionals in the manufacturing career cluster.
09.0	Use information technology tools.--The student will be able to:	
	09.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the manufacturing career cluster.
	09.02	Use e-mail clients to send simple messages and files to other Internet users.
	09.03	Demonstrate ways to communicate effectively using Internet technology.
	09.04	Use different types of web search engines effectively to locate information relevant to the manufacturing career cluster.

CTE Standards and Benchmarks
Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes. The student will be able to**:**

10.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
11.0	Develop skills to locate, evaluate, and interpret career information.
12.0	Identify and demonstrate processes for making short and long term goals.
13.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
14.0	Understand the relationship between educational achievement and career choices/postsecondary options.
15.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
16.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
17.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Manufacturing**
Course Type: **Orientation/Exploratory**
Career Cluster: **Manufacturing**

Secondary – Middle School	
Course Number	9260400
CIP Number	149260400M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section
CTSO	FL-TSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the manufacturing career cluster. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9260400	Fundamentals of Manufacturing	AUTO PROD 7G ELECTRONIC @7 7G ENG 7G IND ENGR 7G TEC ED 1 @ 2	Semester

Standards

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

01.0   Demonstrate an understanding of the societal impact of manufacturing.
02.0   Demonstrate an understanding of the history of manufacturing.
03.0   Demonstrate an understanding of the universal systems model as it relates to manufacturing.
04.0   Demonstrate an understanding of safe work practices while performing tasks.
05.0   Identify materials and resources used in manufacturing.
06.0   Describe the essential systems and processes involved in manufacturing.
07.0   Perform a pre-planned introductory manufacturing activity applying correct safety procedures, appropriate use of materials, and processing operations.
08.0   Use visual and verbal communication to present employment and career opportunities in manufacturing.
09.0   Students will select and demonstrate techniques, skills, tools, and understanding related to manufacturing.
10.0   Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Manufacturing**
Course Number: **9260400**
Course Length: **Semester**

Course Description:
This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the societal impact of manufacturing.--The student will be able to:
01.01   Track the evolution of manufacturing and its impact on society.
01.02   Explain the educational requirements and professional expectations associated with a career in manufacturing.
01.03   Describe the impact of governmental and political systems on manufacturing.
01.04   Explain the interaction between manufacturing industries and social change
01.05   Explain how manufacturing made the United States a world leader.
01.06   Describe the relationship between manufacturing and the environment
01.07   Explain the importance of a technologically literate workforce to the manufacturing industry.
02.0   Demonstrate an understanding of the history of manufacturing.--The student will be able to:
02.01   Identify key historical events and their impact on manufacturing.
02.02   List key persons who have contributed to change in manufacturing.
02.03   Describe the Industrial Revolution and its impact on manufacturing.
02.04   Identify pioneers of the manufacturing industry.
02.05   Describe/debate the affect that automation has had on manufacturing.
03.0   Demonstrate an understanding of the universal systems model as it relates to manufacturing.--The student will be able to:

CTE Standards and Benchmarks	
03.01	Describe the processes of input, processing, output, and feedback that comprise the universal systems model.
03.02	Demonstrate applications of the universal systems model in manufacturing.
03.03	Describe the role of time, capital, people, tools and machines, energy, materials, and information within the universal systems model as it applies to manufacturing industries.
04.0 Demonstrate an understanding of safe work practices while performing tasks.--The student will be able to:	
04.01	Identify safety equipment.
04.02	Recognize immediate, potential, and hidden hazards.
04.03	Perform housekeeping tasks related to maintaining a safe work environment.
04.04	Pass a safety test with a perfect score prior to operating equipment.
04.05	Demonstrate the proper safe use of tools and equipment
04.06	Identify safety color codes
05.0 Identify materials and resources used in manufacturing.--The student will be able to:	
05.01	Describe the seven basic technological resources.
05.02	Describe the properties of manufacturing materials.
05.03	Explain how materials are classified.
05.04	List, measure, and compare common mechanical properties of select materials.
05.05	List sources and costs where materials may be obtained
05.06	Create a bill of materials
05.07	Calculate production cost analysis
06.0 Describe the essential systems and processes involved in manufacturing.--The student will be able to:	
06.01	Compare and contrast custom, intermittent, and continuous manufacturing systems.
06.02	Demonstrate fundamentals of producing technical sketches.
06.03	Create simple two and three dimensional drawings using CAD software.
06.04	List common hand tools used in the maintenance, installation, and repair of equipment.

06.05	Identify commonly used power tools.
06.06	Describe primary manufacturing processes.
06.07	List secondary manufacturing processes.
06.08	Define the terms separating and forming as it relates to manufacturing.
06.09	Identify separating processes – traditional and non-traditional.
06.10	Identify forming processes including casting, molding, compression, stretching, and conditioning.
06.11	Differentiate between combining processes such as mixing, bonding, coating, and mechanical filtering.
06.12	Produce a simple part applying computer assisted production equipment.
06.13	Program a robot to perform a repetitive task.
06.14	Create a device that will perform a task using a computer controlled program.
06.15	Describe the advantages/disadvantages of the separation processing of materials using manual versus computer controlled machinery.
06.16	Describe assembling processes.
06.17	Explain the importance of finishing processes.
06.18	Describe the role of quality control in the manufacturing process.
06.19	Explain the importance of quality control within a manufacturing system.
07.0	Perform a pre-planned introductory manufacturing activity applying correct safety procedures, appropriate use of materials, and processing operations.--The student will be able to:
07.01	Use hand and power tools safely.
07.02	Demonstrate fundamentals of reading technical sketches.
07.03	Use English and/or metric measurement effectively in order to properly lay out a part for manufacturing.
07.04	Follow a production flow chart to produce a teacher-selected product.
07.05	Apply appropriate problem solving to improve an existing manufacturing system.
08.0	Use visual and verbal communication to present employment and career opportunities in manufacturing.--The student will be able to:
08.01	Present a technical report to an audience regarding a researched manufacturing related career using multimedia.

	08.02	Prepare and produce a portfolio representing experiences throughout the course of study.
09.0	Students will select and demonstrate techniques, skills, tools, and understanding related to manufacturing.--The student will be able to:	
	09.01	Use common tools correctly and safely.
	09.02	Describe strategies for selecting materials and processes necessary for developing a technological system or artifact.
	09.03	Demonstrate fundamental materials processing and assembly techniques.
	09.04	Evaluate the interdependence of components in a technological system and identify those elements that are critical to correct functioning.
	09.05	Apply analytical tools to the development of optimal solutions for technological problems.
10.0	Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities.--The student will be able to:	
	10.01	Demonstrate effective communication skills.
	10.02	Participate in teamwork to accomplish specified organizational goals.
	10.03	Demonstrate cooperation and understanding with persons who are ethnically and culturally diverse.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

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. 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.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Marketing, Sales and Service**
Course Type: **Orientation/Exploratory**
Career Cluster: **Marketing, Sales and Service**

Secondary – Middle School	
Course Number	9309350
CIP Number	149309350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	DECA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Marketing, Sales and Service career cluster. The content includes, but is not limited to, topics related to Marketing, Sales and Service. 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.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9309350	Introduction to Marketing, Sales and Service	BUS ED 1 MKTG 1 MKTG MGMT 7G	Semester

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

Standards

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

01.0   Demonstrate an understanding of the e-Marketing career pathway.
02.0   Demonstrate an understanding of the Professional Sales and Marketing career pathway.
03.0   Demonstrate an understanding of the Management and Entrepreneurship career pathway.
04.0   Demonstrate an understanding of the Distribution and Logistics career pathway.
05.0   Demonstrate an understanding of the Marketing Information Management and Research career pathway.
06.0   Demonstrate an understanding of the Marketing Communications and Promotion career pathway.
07.0   Demonstrate an understanding of the Buying and Merchandising career pathway.
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Marketing, Sales and Service career cluster.
10.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Marketing, Sales and Service**
Course Number: **9309350**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Marketing, Sales and Service career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Marketing, Sales and Service career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills and to participate in hands-on activities.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the e-Marketing career pathway – the student will be able to:
01.01   Define and use proper terminology associated with the e-Marketing career pathway.
01.02   Describe some of the careers available in the e-Marketing career pathway.
01.03   Identify common characteristics of the careers in the e-Marketing career pathway.
01.04   Research the history of the e-Marketing career pathway and describe how the associated careers have evolved and impacted society.
01.05   Identify skills required to successfully enter any career in the e-Marketing career pathway.
01.06   Describe technologies associated with careers in the e-Marketing career pathway.
02.0   Demonstrate an understanding of the Professional Sales and Marketing career pathway – the student will be able to:
02.01   Define and use proper terminology associated with the Professional Sales and Marketing career pathway.
02.02   Describe some of the careers available in the Professional Sales and Marketing career pathway.
02.03   Identify common characteristics of the careers in the Professional Sales and Marketing career pathway.
02.04   Research the history of the Professional Sales and Marketing career pathway and describe how the associated careers have evolved and impacted society.
02.05   Identify skills required to successfully enter any career in the Professional Sales and Marketing career pathway.
02.06   Describe technologies associated with careers in the Professional Sales and Marketing career pathway.
03.0   Demonstrate an understanding of the Management and Entrepreneurship career pathway – the student will be able to:

CTE Standards and Benchmarks	
03.01	Define and use proper terminology associated with the Management and Entrepreneurship career pathway.
03.02	Describe some of the careers available in the Management and Entrepreneurship career pathway.
03.03	Identify common characteristics of the careers in the Management and Entrepreneurship career pathway.
03.04	Research the history of the Management and Entrepreneurship career pathway and describe how the associated careers have evolved and impacted society.
03.05	Identify skills required to successfully enter any career in the Management and Entrepreneurship career pathway.
03.06	Describe technologies associated with careers in the Management and Entrepreneurship career pathway.
04.0	Demonstrate an understanding of the Distribution and Logistics career pathway – the student will be able to:
04.01	Define and use proper terminology associated with the Distribution and Logistics career pathway.
04.02	Describe some of the careers available in the Distribution and Logistics career pathway.
04.03	Identify common characteristics of the careers in the Distribution and Logistics career pathway.
04.04	Research the history of the Distribution and Logistics career pathway and describe how the associated careers have evolved and impacted society.
04.05	Identify skills required to successfully enter any career in the Distribution and Logistics career pathway.
04.06	Describe technologies associated with careers in the Distribution and Logistics career pathway.
05.0	Demonstrate an understanding of the Marketing Information Management and Research career pathway – the student will be able to:
05.01	Define and use proper terminology associated with the Marketing Information Management and Research career pathway.
05.02	Describe some of the careers available in the Marketing Information Management and Research career pathway.
05.03	Identify common characteristics of the careers in the Marketing Information Management and Research career pathway.
05.04	Research the history of the Marketing Information Management and Research career pathway and describe how the associated careers have evolved and impacted society.
05.05	Identify skills required to successfully enter any career in the Marketing Information Management and Research career pathway.
05.06	Describe technologies associated with careers in the Marketing Information Management and Research career pathway.
06.0	Demonstrate an understanding of the Marketing Communications and Promotion career pathway – the student will be able to:
06.01	Define and use proper terminology associated with the Marketing Communications and Promotion career pathway.

	06.02	Describe some of the careers available in the Marketing Communications and Promotion career pathway.
	06.03	Identify common characteristics of the careers in the Marketing Communications and Promotion career pathway.
	06.04	Research the history of the Marketing Communications and Promotion career pathway and describe how the associated careers have evolved and impacted society.
	06.05	Identify skills required to successfully enter any career in the Marketing Communications and Promotion career pathway.
	06.06	Describe technologies associated with careers in the Marketing Communications and Promotion career pathway.
07.0	Demonstrate an understanding of the Buying and Merchandising career pathway – the student will be able to:	
	07.01	Define and use proper terminology associated with the Buying and Merchandising career pathway.
	07.02	Describe some of the careers available in the Buying and Merchandising career pathway.
	07.03	Identify common characteristics of the careers in the Buying and Merchandising career pathway.
	07.04	Research the history of the Buying and Merchandising career pathway and describe how the associated careers have evolved and impacted society.
	07.05	Identify skills required to successfully enter any career in the Buying and Merchandising career pathway.
	07.06	Describe technologies associated with careers in the Buying and Merchandising career pathway.
08.0	Apply leadership and communication skills – the student will be able to:	
	08.01	Discuss the establishment and history of the DECA organization.
	08.02	Identify the characteristics and responsibilities of organizational leaders.
	08.03	Demonstrate parliamentary procedure skills during a meeting.
	08.04	Participate on a committee which has an assigned task and report to the class.
	08.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or by conducting a demonstration.
	08.06	Use a computer to assist in the completion of project related to the Marketing, Sales and Service career cluster.
09.0	Describe how information technology is used in the Marketing, Sales and Service career cluster – the student will be able to:	
	09.01	Identify Information Technology (IT) careers in the Marketing, Sales and Service career cluster; include the responsibilities, tasks and skills they require.
	09.02	Relate IT project management concepts and terms to careers in the Marketing, Sales and Service career cluster.

CTE Standards and Benchmarks		
	09.03	Manage IT components typically used in professions of the Marketing, Sales and Service career cluster.
	09.04	Identify security-related ethical and legal IT issues faced by professionals in the Marketing, Sales and Service career cluster.
10.0	Use information technology tools – the student will be able to:	
	10.01	Identify the functions of web browsers, and use them to access the Internet and other computer resources typically used in the Marketing Sales and Service career cluster.
	10.02	Use email clients to send simple messages and files to other Internet users.
	10.03	Demonstrate ways to communicate effectively using Internet technology.
	10.04	Use different types of search engines effectively to locate information relevant to the Marketing Sales and Service career cluster.

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.

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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 Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

DECA 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Marketing, Sales and Service and Career Planning**
Course Type: **Orientation/Exploratory and Career Planning**
Career Cluster: **Marketing, Sales and Service**

Secondary – Middle School	
Course Number	9309360
CIP Number	149309360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	DECA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Marketing, Sales and Service career cluster. The content includes but is not limited to exposure to the skills and attitudes associated with a broad range of occupations relating to careers in marketing as well as reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9309360	Introduction to Marketing, Sales and Service and Career Planning	BUS ED 1 MKTG 1 MKTG MGMT 7G	Semester

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

Standards

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

01.0   Demonstrate an understanding of the e-Marketing career pathway
02.0   Demonstrate an understanding of the Professional Sales and Marketing career pathway
03.0   Demonstrate an understanding of the Management and Entrepreneurship career pathway
04.0   Demonstrate an understanding of the Distribution and Logistics career pathway
05.0   Demonstrate an understanding of the Marketing Information Management and Research career pathway
06.0   Demonstrate an understanding of the Marketing Communications and Promotion career pathway
07.0   Demonstrate an understanding of the Buying and Merchandising career pathway
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Marketing, Sales and Service career cluster.
10.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:

11.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0   Develop skills to locate, evaluate, and interpret career information.
13.0   Identify and demonstrate processes for making short and long term goals.
14.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0   Understand the relationship between educational achievement and career choices/postsecondary options.
16.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Marketing, Sales and Service and Career Planning**
Course Number: **9309360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Marketing, Sales and Service career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Marketing, Sales and Service career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills and participate in hands-on activities.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the e-Marketing career pathway – the student will be able to:
01.01 Define and use proper terminology associated with the e-Marketing career pathway.
01.02 Describe some of the careers available in the e-Marketing career pathway.
01.03 Identify common characteristics of the careers in the e-Marketing career pathway.
01.04 Research the history of the e-Marketing career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the e-Marketing career pathway.
01.06 Describe technologies associated with careers in the e-Marketing career pathway.
02.0 Demonstrate an understanding of the Professional Sales and Marketing career pathway – the student will be able to:
02.01 Define and use proper terminology associated with the Professional Sales and Marketing career pathway.
02.02 Describe some of the careers available in the Professional Sales and Marketing career pathway.
02.03 Identify common characteristics of the careers in the Professional Sales and Marketing career pathway.
02.04 Research the history of the Professional Sales and Marketing career pathway and describe how the associated careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Professional Sales and Marketing career pathway.
02.06 Describe technologies associated with careers in the Professional Sales and Marketing career pathway.
03.0 Demonstrate an understanding of the Management and Entrepreneurship career pathway – the student will be able to:

CTE Standards and Benchmarks	
03.01	Define and use proper terminology associated with the Management and Entrepreneurship career pathway.
03.02	Describe some of the careers available in the Management and Entrepreneurship career pathway.
03.03	Identify common characteristics of the careers in the Management and Entrepreneurship career pathway.
03.04	Research the history of the Management and Entrepreneurship career pathway and describe how the associated careers have evolved and impacted society.
03.05	Identify skills required to successfully enter any career in the Management and Entrepreneurship career pathway.
03.06	Describe technologies associated with careers in the Management and Entrepreneurship career pathway.
04.0	Demonstrate an understanding of the Distribution and Logistics career pathway – the student will be able to:
04.01	Define and use proper terminology associated with the Distribution and Logistics career pathway.
04.02	Describe some of the careers available in the Distribution and Logistics career pathway.
04.03	Identify common characteristics of the careers in the Distribution and Logistics career pathway.
04.04	Research the history of the Distribution and Logistics career pathway and describe how the associated careers have evolved and impacted society.
04.05	Identify skills required to successfully enter any career in the Distribution and Logistics career pathway.
04.06	Describe technologies associated with careers in the Distribution and Logistics career pathway.
05.0	Demonstrate an understanding of the Marketing Information Management and Research career pathway – the student will be able to:
05.01	Define and use proper terminology associated with the Marketing Information Management and Research career pathway.
05.02	Describe some of the careers available in the Marketing Information Management and Research career pathway.
05.03	Identify common characteristics of the careers in the Marketing Information Management and Research career pathway.
05.04	Research the history of the Marketing Information Management and Research career pathway and describe how the associated careers have evolved and impacted society.
05.05	Identify skills required to successfully enter any career in the Marketing Information Management and Research career pathway.
05.06	Describe technologies associated with careers in the Marketing Information Management and Research career pathway.
06.0	Demonstrate an understanding of the Marketing Communications and Promotion career pathway – the student will be able to:
06.01	Define and use proper terminology associated with the Marketing Communications and Promotion career pathway.

	CTE Standards and Benchmarks
	06.02 Describe some of the careers available in the Marketing Communications and Promotion career pathway.
	06.03 Identify common characteristics of the careers in the Marketing Communications and Promotion career pathway.
	06.04 Research the history of the Marketing Communications and Promotion career pathway and describe how the associated careers have evolved and impacted society.
	06.05 Identify skills required to successfully enter any career in the Marketing Communications and Promotion career pathway.
	06.06 Describe technologies associated with careers in the Marketing Communications and Promotion career pathway.
07.0	Demonstrate an understanding of the Buying and Merchandising career pathway – the student will be able to:
	07.01 Define and use proper terminology associated with the Buying and Merchandising career pathway.
	07.02 Describe some of the careers available in the Buying and Merchandising career pathway.
	07.03 Identify common characteristics of the careers in the Buying and Merchandising career pathway.
	07.04 Research the history of the Buying and Merchandising career pathway and describe how the associated careers have evolved and impacted society.
	07.05 Identify skills required to successfully enter any career in the Buying and Merchandising career pathway.
	07.06 Describe technologies associated with careers in the Buying and Merchandising career pathway.
08.0	Apply leadership and communication skills – the student will be able to:
	08.01 Discuss the establishment and history of the DECA organization.
	08.02 Identify the characteristics and responsibilities of organizational leaders.
	08.03 Demonstrate parliamentary procedure skills during a meeting.
	08.04 Participate on a committee which has an assigned task and report to the class.
	08.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or by conducting a demonstration.
	08.06 Use a computer to assist in the completion of project related to the Marketing, Sales and Service career cluster.
09.0	Describe how information technology is used in the Marketing, Sales and Service career cluster – the student will be able to:
	09.01 Identify Information Technology (IT) careers in the Marketing, Sales and Service career cluster; include the responsibilities, tasks and skills required.
	09.02 Relate IT project management concepts and terms to careers in the Marketing, Sales and Service career cluster.

CTE Standards and Benchmarks

	09.03	Manage IT components typically used in professions of the Marketing, Sales and Service career cluster.
	09.04	Identify security-related ethical and legal IT issues faced by professionals in the Marketing, Sales and Service career cluster.
10.0	Use information technology tools – the student will be able to:	
	09.01	Identify the functions of web browsers, and use them to access the Internet and other computer resources typically used in the Marketing, Sales and Service career cluster.
	09.02	Use email clients to send simple messages and files to other Internet users.
	09.03	Demonstrate ways to communicate effectively using Internet technology.
	09.04	Use different types of web search engines effectively to locate information relevant to the Marketing, Sales and Service career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

11.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0	Develop skills to locate, evaluate, and interpret career information.
13.0	Identify and demonstrate processes for making short and long term goals.
14.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills.
15.0	Understand the relationship between educational achievement and career choices/postsecondary options.
16.0	Identify a career cluster and related pathways that match career and education goals.
17.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Laboratory Activities

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

Florida 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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

DECA 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.

<u>Accommodations</u>

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Marketing Occupations**
Course Type: **Orientation/Exploratory**
Career Cluster: **Marketing, Sales and Service**

Secondary – Middle School	
Course Number	9380300
CIP Number	149380300M
Grade Level	6-8
Standard Length	Year
Teacher Certification	Refer to the **Course Structure** section.
CTSO	DECA

Purpose

The purpose of this course is to assist students in making informed decisions regarding academic and occupational goals and to provide information regarding careers in the Marketing, Sales and Service career cluster. The content includes, but is not limited to, topics related to Marketing, Sales and Service.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

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 course structure:

Course Number	Course Title	Teacher Certification	Length
9380300	Fundamentals of Marketing Occupations	BUS ED 1 MKTG 1 MKTG MGMT 7G	Year

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

Standards

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

01.0   Demonstrate an understanding of the e-Marketing career pathway.
02.0   Demonstrate an understanding of the Professional Sales and Marketing career pathway.
03.0   Demonstrate an understanding of the Management and Entrepreneurship career pathway.
04.0   Demonstrate an understanding of the Distribution and Logistics career pathway.
05.0   Demonstrate an understanding of the Marketing Information Management and Research career pathway.
06.0   Demonstrate an understanding of the Marketing Communications and Promotion career pathway.
07.0   Demonstrate an understanding of the Buying and Merchandising career pathway.
08.0   Apply leadership and communication skills.
09.0   Identify components of network systems.
10.0   Describe and use communication features of information technology.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Marketing Occupations**
Course Number: **9380300**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Marketing, Sales and Service career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Marketing, Sales and Service career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills and participate in hands-on activities.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the e-Marketing career pathway – the student will be able to:
01.01 Define and use the terminology associated with the e-Marketing career pathway.
01.02 Describe the careers available in the e-Marketing career pathway.
01.03 Identify common characteristics of careers in the e-Marketing career pathway.
01.04 Research the history of the e-Marketing career pathway; describe how the associated careers have evolved and impacted society.
01.05 Identify the skills required to successfully enter any career in the e-Marketing career pathway.
01.06 Describe the technologies associated with careers in the e-Marketing career pathway.
02.0 Demonstrate an understanding of the Professional Sales and Marketing career pathway – the student will be able to:
02.01 Define and use the terminology associated with the Professional Sales and Marketing career pathway.
02.02 Describe the careers available in the Professional Sales and Marketing career pathway.
02.03 Identify common characteristics of careers in the Professional Sales and Marketing career pathway.
02.04 Research the history of the Professional Sales and Marketing career pathway; describe how the associated careers have evolved and impacted society.
02.05 Identify the skills required to successfully enter any career in the Professional Sales and Marketing career pathway.
02.06 Describe the technologies associated with careers in the Professional Sales and Marketing career pathway.
03.0 Demonstrate an understanding of the Management and Entrepreneurship career pathway – the student will be able to:

	CTE Standards and Benchmarks	
	03.01	Define and use terminology associated with the Management and Entrepreneurship career pathway.
	03.02	Describe the careers available in the Management and Entrepreneurship career pathway.
	03.03	Identify common characteristics of careers in the Management and Entrepreneurship career pathway.
	03.04	Research the history of the Management and Entrepreneurship career pathway; and describe how the associated careers have evolved and impacted society.
	03.05	Identify the skills required to successfully enter any career in the Management and Entrepreneurship career pathway.
	03.06	Describe the technologies associated with careers in the Management and Entrepreneurship career pathway.
04.0	Demonstrate an understanding of the Distribution and Logistics career pathway – the student will be able to:	
	04.01	Define and use the terminology associated with the Distribution and Logistics career pathway.
	04.02	Describe the careers available in the Distribution and Logistics career pathway.
	04.03	Identify common characteristics of careers in the Distribution and Logistics career pathway.
	04.04	Research the history of the Distribution and Logistics career pathway; describe how the associated careers have evolved and impacted society.
	04.05	Identify the skills required to successfully enter any career in the Distribution and Logistics career pathway.
	04.06	Describe the technologies associated with careers in the Distribution and Logistics career pathway.
05.0	Demonstrate an understanding of the Marketing Information Management and Research career pathway – the student will be able to:	
	05.01	Define and use the terminology associated with the Marketing Information Management and Research career pathway.
	05.02	Describe the careers available in the Marketing Information Management and Research career pathway.
	05.03	Identify common characteristics of careers in the Marketing Information Management and Research career pathway.
	05.04	Research the history of the Marketing Information Management and Research career pathway; describe how the associated careers have evolved and impacted society.
	05.05	Identify the skills required to successfully enter any career in the Marketing Information Management and Research career pathway.
	05.06	Describe the technologies associated with careers in the Marketing Information Management and Research career pathway.
06.0	Demonstrate an understanding of the Marketing Communications and Promotion career pathway – the student will be able to:	
	06.01	Define and use the terminology associated with the Marketing Communications and Promotion career pathway.

CTE Standards and Benchmarks	
06.02	Describe the careers available in the Marketing Communications and Promotion career pathway.
06.03	Identify common characteristics of careers in the Marketing Communications and Promotion career pathway.
06.04	Research the history of the Marketing Communications and Promotion career pathway; describe how the associated careers have evolved and impacted society.
06.05	Identify the skills required to successfully enter any career in the Marketing Communications and Promotion career pathway.
06.06	Describe the technologies associated with careers in the Marketing Communications and Promotion career pathway.
07.0	Demonstrate an understanding of the Buying and Merchandising career pathway – the student will be able to:
07.01	Define and use the terminology associated with the Buying and Merchandising career pathway.
07.02	Describe the careers available in the Buying and Merchandising career pathway.
07.03	Identify common characteristics of careers in the Buying and Merchandising career pathway.
07.04	Research the history of the Buying and Merchandising career pathway; describe how the associated careers have evolved and impacted society.
07.05	Identify the skills required to successfully enter any career in the Buying and Merchandising career pathway.
07.06	Describe the technologies associated with careers in the Buying and Merchandising career pathway.
08.0	Apply leadership and communication skills – the student will be able to:
08.01	Discuss the establishment and history of the DECA organization.
08.02	Identify the characteristics and responsibilities of organizational leaders.
08.03	Demonstrate parliamentary procedure skills during a meeting.
08.04	Participate on a committee which has an assigned task and report to the class.
08.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or by conducting a demonstration.
08.06	Use a computer to assist in the completion of project related to the Marketing, Sales and Service career cluster.
09.0	Identify components of network systems – the student will be able to:
09.01	Identify basic hardware and software components.
09.02	Identify and configure user customization features in web browsers; include preferences, caching, and cookies.
09.03	Recognize essential database concepts.

CTE Standards and Benchmarks	
	09.04 Define and use networking and Internet services.
10.0	Describe and use communication features of information technology – the student will be able to
	10.01 Define important Internet communications protocols and their roles in delivering basic Internet services.
	10.02 Identify basic principles of the Domain Name System (DNS).
	10.03 Identify security issues related to Internet clients.

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.

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English Language Development (ELD) Standards Special Notes:
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Career and Technical Student Organization (CTSO)

DECA 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 as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Transportation, Distribution and Logistics**
Course Type: **Orientation/Exploratory**
Career Cluster: **Transportation, Distribution and Logistics**

Secondary – Middle School	
Course Number	9590350
CIP Number	149590350M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FL-TSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the transportation, distribution and logistics career cluster. This includes but is not limited to coherent and rigorous content aligned with the challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the transportation, distribution and logistics career cluster; providing technical skill proficiency, and 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 transportation, distribution and logistics career cluster. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9590350	Introduction to Transportation, Distribution and Logistics	AEROSPACE 7G AIR MECH @7 7G AUTO MECH @7 7G DIESEL MECH @7 7G GASENG RPR @7 7G LOG TECH 7G TEC ED 1 @2 ENG&TEC ED1@2 TRANSPORT 7G	Semester

Standards

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

01.0   Demonstrate an understanding of the Transportation Operations career pathway.
02.0   Demonstrate an understanding of the Logistics Planning and Management Services career pathway.
03.0   Demonstrate an understanding of the Warehousing and Distribution Center Operations career pathway.
04.0   Demonstrate an understanding of the Facility and Mobile Equipment Maintenance career pathway.
05.0   Demonstrate an understanding of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
06.0   Demonstrate an understanding of the Health, Safety and Environmental Management career pathway.
07.0   Demonstrate an understanding of the Sales and Service career pathway.
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Transportation, Distribution and Logistics career cluster.
10.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Transportation, Distribution and Logistics**
Course Number: **9590350**
Course Length: **Semester**

Course Description:
Beginning with a broad overview of the Transportation, Distribution and Logistics career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Transportation, Distribution and Logistics career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the Transportation Operations career pathway.--The student will be able to:
01.01 Define and use proper terminology associated with the Transportation Operations career pathway.
01.02 Describe some of the careers available in the Transportation Operations career pathway.
01.03 Identify common characteristics of the careers in the Transportation Operations career pathway.
01.04 Research the history of the Transportation Operations career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Transportation Operations career pathway.
01.06 Describe technologies associated in careers within the Transportation Operations career pathway.
02.0 Demonstrate an understanding of the Logistics Planning and Management Services career pathway.--The student will be able to:
02.01 Define and use proper terminology associated with the Logistics Planning and Management Services career pathway.
02.02 Describe some of the careers available in the Logistics Planning and Management Services career pathway.
02.03 Identify common characteristics of the careers in the Logistics Planning and Management Services career pathway.
02.04 Research the history of the Logistics Planning and Management Services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Logistics Planning and Management Services career pathway.
02.06 Describe technologies associated in careers within the Logistics Planning and Management Services career pathway.
03.0 Demonstrate an understanding of the Warehousing and Distribution Center Operations career pathway.--The student will be able to:
03.01 Define and use proper terminology associated with the Warehousing and Distribution Center Operations career pathway.
03.02 Describe some of the careers available in the Warehousing and Distribution Center Operations career pathway.
03.03 Identify common characteristics of the careers in the Warehousing and Distribution Center Operations career pathway.

	03.04	Research the history of the Warehousing and Distribution Center Operations career pathway and describe how the careers have evolved and impacted society.
	03.05	Identify skills required to successfully enter any career in the Warehousing and Distribution Center Operations career pathway.
	03.06	Describe technologies associated in careers within the Warehousing and Distribution Center Operations career pathway.
04.0	Demonstrate an understanding of the Facility and Mobile Equipment Maintenance career pathway.--The student will be able to:	
	04.01	Define and use proper terminology associated with the Facility and Mobile Equipment Maintenance career pathway.
	04.02	Describe some of the careers available in the Facility and Mobile Equipment Maintenance career pathway.
	04.03	Identify common characteristics of the careers in the Facility and Mobile Equipment Maintenance career pathway.
	04.04	Research the history of the Facility and Mobile Equipment Maintenance career pathway and describe how the careers have evolved and impacted society.
	04.05	Identify skills required to successfully enter any career in the Facility and Mobile Equipment Maintenance career pathway.
	04.06	Describe technologies associated in careers within the Facility and Mobile Equipment Maintenance career pathway.
05.0	Demonstrate an understanding of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.--The student will be able to:	
	05.01	Define and use proper terminology associated with the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
	05.02	Describe some of the careers available in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
	05.03	Identify common characteristics of the careers in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
	05.04	Research the history of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway and describe how the careers have evolved and impacted society.
	05.05	Identify skills required to successfully enter any career in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
	05.06	Describe technologies associated in careers within the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
06.0	Demonstrate an understanding of the Health, Safety and Environmental Management career pathway.--The student will be able to:	
	06.01	Define and use proper terminology associated with the Health, Safety and Environmental Management career pathway.
	06.02	Describe some of the careers available in the Health, Safety and Environmental Management career pathway.
	06.03	Identify common characteristics of the careers in the Health, Safety and Environmental Management career pathway.
	06.04	Research the history of the Health, Safety and Environmental Management career pathway and describe how the careers have evolved and impacted society.
	06.05	Identify skills required to successfully enter any career in the Health, Safety and Environmental Management career pathway.
	06.06	Describe technologies associated in careers within the Health, Safety and Environmental Management career pathway.

	CTE Standards and Benchmarks
07.0	Demonstrate an understanding of the Sales and Service career pathway.--The student will be able to:
	07.01 Define and use proper terminology associated with the Sales and Service career pathway.
	07.02 Describe some of the careers available in the Sales and Service career pathway.
	07.03 Identify common characteristics of the careers in the Sales and Service career pathway.
	07.04 Research the history of the Sales and Service career pathway and describe how the careers have evolved and impacted society.
	07.05 Identify skills required to successfully enter any career in the Sales and Service career pathway.
	07.06 Describe technologies associated in careers within the Sales and Service career pathway.
08.0	Apply leadership and communication skills.--The student will be able to:
	08.01 Discuss the establishment and history of the FL-TSA organization.
	08.02 Identify the characteristics and responsibilities of organizational leaders.
	08.03 Demonstrate parliamentary procedure skills during a meeting.
	08.04 Participate on a committee which has an assigned task and report to the class.
	08.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
	08.06 Use a computer to assist in the completion of a project related to the Transportation, Distribution and Logistics career cluster.
09.0	Describe how information technology is used in the Transportation, Distribution and Logistics career cluster.--The student will be able to:
	09.01 Identify information technology (IT) careers in the Transportation, Distribution and Logistics career cluster, including the responsibilities, tasks and skills they require.
	09.02 Relate information technology project management concepts and terms to careers in the Transportation, Distribution and Logistics career cluster.
	09.03 Manage information technology components typically used in professions of the Transportation, Distribution and Logistics career cluster.
	09.04 Identify security-related ethical and legal IT issues faced by professionals in the transportation, distribution and logistics career cluster.
10.0	Use information technology tools.--The student will be able to:
	10.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the transportation, distribution and logistics career cluster.
	10.02 Use e-mail clients to send simple messages and files to other Internet users.
	10.03 Demonstrate ways to communicate effectively using Internet technology.
	10.04 Use different types of web search engines effectively to locate information relevant to the transportation, distribution and logistics career cluster.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

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. 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.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Transportation, Distribution and Logistics and Career Planning***
Course Type: **Orientation/Exploratory**
Career Cluster: **Transportation, Distribution and Logistics**

Secondary – Middle School	
Course Number	9590360
CIP Number	149590360M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FL-TSA

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the transportation, distribution and logistics career cluster. This includes but is not limited to coherent and rigorous content aligned with the challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the transportation, distribution and logistics career cluster; providing technical skill proficiency, and 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 transportation, distribution and logistics career cluster. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9590360	Introduction to Transportation, Distribution and Logistics and Career Planning	AEROSPACE 7G AIR MECH @7 7G AUTO MECH @7 7G DIESEL MECH @7 7G GASENG RPR @7 7G LOG TECH 7G TEC ED 1 @2 ENG&TEC ED1@2 TRANSPORT 7G	Semester

Standards

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

01.0   Demonstrate an understanding of the Transportation Operations career pathway.
02.0   Demonstrate an understanding of the Logistics Planning and Management Services career pathway.
03.0   Demonstrate an understanding of the Warehousing and Distribution Center Operations career pathway.
04.0   Demonstrate an understanding of the Facility and Mobile Equipment Maintenance career pathway.
05.0   Demonstrate an understanding of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
06.0   Demonstrate an understanding of the Health, Safety and Environmental Management career pathway.
07.0   Demonstrate an understanding of the Sales and Service career pathway.
08.0   Apply leadership and communication skills.
09.0   Describe how information technology is used in the Transportation, Distribution and Logistics career cluster.
10.0   Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

11.0   Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0   Develop skills to locate, evaluate, and interpret career information.
13.0   Identify and demonstrate processes for making short and long term goals.
14.0   Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0   Understand the relationship between educational achievement and career choices/postsecondary options.
16.0   Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0   Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0   Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Transportation, Distribution and Logistics and Career Planning**
Course Number: **9590360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the transportation, distribution and logistics career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Transportation, Distribution and Logistics career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Demonstrate an understanding of the Transportation Operations career pathway.--The student will be able to:
01.01 Define and use proper terminology associated with the Transportation Operations career pathway.
01.02 Describe some of the careers available in the Transportation Operations career pathway.
01.03 Identify common characteristics of the careers in the Transportation Operations career pathway.
01.04 Research the history of the Transportation Operations career pathway and describe how the associated careers have evolved and impacted society.
01.05 Identify skills required to successfully enter any career in the Transportation Operations career pathway.
01.06 Describe technologies associated in careers within the Transportation Operations career pathway.
02.0   Demonstrate an understanding of the Logistics Planning and Management Services career pathway.--The student will be able to:
02.01 Define and use proper terminology associated with the Logistics Planning and Management Services career pathway.
02.02 Describe some of the careers available in the Logistics Planning and Management Services career pathway.
02.03 Identify common characteristics of the careers in the Logistics Planning and Management Services career pathway.
02.04 Research the history of the Logistics Planning and Management Services career pathway and describe how the careers have evolved and impacted society.
02.05 Identify skills required to successfully enter any career in the Logistics Planning and Management Services career pathway.
02.06 Describe technologies associated in careers within the Logistics Planning and Management Services career pathway.
03.0   Demonstrate an understanding of the Warehousing and Distribution Center Operations career pathway.--The student will be able to:
03.01 Define and use proper terminology associated with the Warehousing and Distribution Center Operations career pathway.

CTE Standards and Benchmarks	
03.02	Describe some of the careers available in the Warehousing and Distribution Center Operations career pathway.
03.03	Identify common characteristics of the careers in the Warehousing and Distribution Center Operations career pathway.
03.04	Research the history of the Warehousing and Distribution Center Operations career pathway and describe how the careers have evolved and impacted society.
03.05	Identify skills required to successfully enter any career in the Warehousing and Distribution Center Operations career pathway.
03.06	Describe technologies associated in careers within the Warehousing and Distribution Center Operations career pathway.
04.0	Demonstrate an understanding of the Facility and Mobile Equipment Maintenance career pathway.--The student will be able to:
04.01	Define and use proper terminology associated with the Facility and Mobile Equipment Maintenance career pathway.
04.02	Describe some of the careers available in the Facility and Mobile Equipment Maintenance career pathway.
04.03	Identify common characteristics of the careers in the Facility and Mobile Equipment Maintenance career pathway.
04.04	Research the history of the Facility and Mobile Equipment Maintenance career pathway and describe how the careers have evolved and impacted society.
04.05	Identify skills required to successfully enter any career in the Facility and Mobile Equipment Maintenance career pathway.
04.06	Describe technologies associated in careers within the Facility and Mobile Equipment Maintenance career pathway.
05.0	Demonstrate an understanding of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.--The student will be able to:
05.01	Define and use proper terminology associated with the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
05.02	Describe some of the careers available in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
05.03	Identify common characteristics of the careers in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
05.04	Research the history of the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway and describe how the careers have evolved and impacted society.
05.05	Identify skills required to successfully enter any career in the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
05.06	Describe technologies associated in careers within the Transportation Systems/Infrastructure Planning, Management and Regulation career pathway.
06.0	Demonstrate an understanding of the Health, Safety and Environmental Management career pathway.--The student will be able to:
06.01	Define and use proper terminology associated with the Health, Safety and Environmental Management career pathway.
06.02	Describe some of the careers available in the Health, Safety and Environmental Management career pathway.
06.03	Identify common characteristics of the careers in the Health, Safety and Environmental Management career pathway.
06.04	Research the history of the Health, Safety and Environmental Management career pathway and describe how the careers have evolved and impacted society.

CTE Standards and Benchmarks
06.05 Identify skills required to successfully enter any career in the Health, Safety and Environmental Management career pathway.
06.06 Describe technologies associated in careers within the Health, Safety and Environmental Management career pathway.
07.0 Demonstrate an understanding of the Sales and Service career pathway.--The student will be able to:
07.01 Define and use proper terminology associated with the Sales and Service career pathway.
07.02 Describe some of the careers available in the Sales and Service career pathway.
07.03 Identify common characteristics of the careers in the Sales and Service career pathway.
07.04 Research the history of the Sales and Service career pathway and describe how the careers have evolved and impacted society.
07.05 Identify skills required to successfully enter any career in the Sales and Service career pathway.
07.06 Describe technologies associated in careers within the Sales and Service career pathway.
08.0 Apply leadership and communication skills.--The student will be able to:
08.01 Discuss the establishment and history of the FL-TSA organization.
08.02 Identify the characteristics and responsibilities of organizational leaders.
08.03 Demonstrate parliamentary procedure skills during a meeting.
08.04 Participate on a committee which has an assigned task and report to the class.
08.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
08.06 Use a computer to assist in the completion of a project related to the Transportation, Distribution and Logistics career cluster.
09.0 Describe how information technology is used in the Transportation, Distribution and Logistics career cluster.--The student will be able to:
09.01 Identify information technology (IT) careers in the Transportation, Distribution and Logistics career cluster, including the responsibilities, tasks and skills they require.
09.02 Relate information technology project management concepts and terms to careers in the Transportation, Distribution and Logistics career cluster.
09.03 Manage information technology components typically used in professions of the Transportation, Distribution and Logistics career cluster.
09.04 Identify security-related ethical and legal IT issues faced by professionals in the Transportation, Distribution and Logistics career cluster.
10.0 Use information technology tools.--The student will be able to:
10.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Transportation, Distribution and Logistics career cluster.
10.02 Use e-mail clients to send simple messages and files to other Internet users.
10.03 Demonstrate ways to communicate effectively using Internet technology.

CTE Standards and Benchmarks
10.04 Use different types of web search engines effectively to locate information relevant to the Transportation, Distribution and Logistics career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.

The student will be able to**:**

11.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
12.0	Develop skills to locate, evaluate, and interpret career information.
13.0	Identify and demonstrate processes for making short and long term goals.
14.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
15.0	Understand the relationship between educational achievement and career choices/postsecondary options.
16.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.
17.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
18.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

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

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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Fundamentals of Transportation**
Course Type: **Orientation/Exploratory**
Career Cluster: **Transportation, Distribution and Logistics**

Secondary – Middle School	
Course Number	9590400
CIP Number	149590400M
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	FL-TSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the transportation, distribution and logistics career cluster. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of transportation. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9590400	Fundamentals of Transportation	AEROSPACE 7G AIR MECH @7 7G AUTO MECH @7 7G DIESEL MECH @7 7G GASENG RPR @7 7G LOG TECH 7G TEC ED 1 @2 ENG&TEC ED1@2 TRANSPORT 7G	Semester

Standards

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

01.0　Demonstrate an understanding of the societal impact of transportation.
02.0　Research the history of the transportation industry**.**
03.0　Demonstrate knowledge of service publications by selecting the correct source and locating information found in each.
04.0　Demonstrate an understanding of the major components of ground, air and maritime transportation vehicles.
05.0　Demonstrate knowledge of safety, OSHA, EPA issues and procedures.
06.0　Identify and measure fasteners used in the aerospace, ground and maritime transportation industry.
07.0　Identify, select and use the proper tool for a given fastener or job.
08.0　Identify and measure components of an engine used in the aerospace, ground and maritime transportation industry.
09.0　Inspect an aerospace, ground and maritime transportation vehicle for maintenance needed for safe operation.
10.0　Demonstrate an understanding of basic electricity and electronics.
11.0　Demonstrate knowledge of current and alternative fuel sources.
12.0　Use visual and verbal communication to present employment and career opportunities in transportation
13.0　Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities.
14.0　Identify components of network systems.
15.0　Describe and use communication features of information technology.

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Florida Department of Education
Student Performance Standards

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Course Title: **Fundamentals of Transportation**
Course Number: **9590400**
Course Length: **Semester**

Course Description:
This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of transportation. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.

CTE Standards and Benchmarks
01.0 Demonstrate an understanding of the societal impact of transportation.--The student will be able to:
01.01 Track the evolution of transportation and its impact on society.
01.02 Explain the educational requirements and professional expectations associated with a career in transportation.
01.03 Describe the impact of governmental and political systems on transportation.
01.04 Explain the interaction between transportation industries and social change.
01.05 Explain how transportation made the United States a world leader.
01.06 Describe the relationship between transportation and the environment.
01.07 Explain the importance of a technologically literate workforce to the transportation industry.
02.0 Research the history of the transportation industry.--The student will be able to:
02.01 Trace the development of transportation in the United States from a historical perspective.
02.02 Explain the economic impact of the transportation industry at the local and national levels.
02.03 Describe the impact of transportation on a global scale.
02.04 Describe the differences and similarities between ground, air, and maritime travels.
03.0 Demonstrate knowledge of service publications by selecting the correct source and locating information found in each.--The student will be able to:
03.01 Identify aerospace, ground and maritime service publications such as; owner's manuals, manufacturer's manuals and electronic service publications and Federal Aviation Regulations.
03.02 Read service publications to retrieve desired information.
03.03 Describe the basic types of troubleshooting charts found in service publications.
04.0 Demonstrate an understanding of the major components of ground, air and maritime transportation vehicles.--The student will be able to:

CTE Standards and Benchmarks	
	04.01 Identify and locate important parts of ground, air, and maritime transportation vehicles.
	04.02 Describe the purpose of the fundamental transportation systems.
	04.03 Explain how each transportation system works dependent and independently of each other.
	04.04 Describe the Merchant Marine and Marine Transportation System.
05.0	Demonstrate knowledge of safety, OSHA, EPA issues and procedures.--The student will be able to:
	05.01 Define OSHA and how it oversees and provides safety guidelines to the transportation industry.
	05.02 Describe the typical layout and sections of a ground, air and maritime transportation lab.
	05.03 List the types of accidents that can occur in a ground, air and maritime transportation lab.
	05.04 Explain how to prevent ground, air and maritime transportation lab accidents.
	05.05 Describe the general rules for the ground, air and maritime transportation lab.
	05.06 Explain federal, state, and local rules and regulations regarding environmental issues related to the work of the ground, air and maritime transportation industry.
06.0	Identify and measure fasteners used in the aerospace, ground and maritime transportation industry.--The student will be able to:
	06.01 Identify the different fasteners such as; screws, bolts, washers, nuts, rivets, etc. that are used in the aerospace, ground and maritime transportation industry.
	06.02 Explain the functions and applications of various fasteners.
	06.03 Demonstrate how to measure fasteners.
	06.04 Identify the proper hand tools and safe uses when working with fasteners used in the aerospace, ground, and maritime transportation industry.
07.0	Identify, select and use the proper tool for a given fastener or job.--The student will be able to:
	07.01 Identify common ground, air and maritime transportation hand and power tools and proper uses.
	07.02 List safety rules for common ground, air and maritime transportation hand and power tools.
	07.03 Explain how to maintain and store tools properly.
08.0	Identify and measure components of an engine used in the aerospace, ground and maritime transportation industry.--The student will be able to:
	08.01 Introduce and explain the major components of an aerospace/transportation engine.
	08.02 Demonstrate how to properly measure each component.
	08.03 Explain the different instruments used for engine measurements.
	08.04 Discuss various propulsion systems for maritime vessels.
09.0	Inspect an aerospace, ground and maritime transportation vehicle for maintenance needed for safe operation.--The student will be able to:

CTE Standards and Benchmarks	
	09.01 Explain the importance of vehicle maintenance.
	09.02 Demonstrate how to check fluid levels, belts, hoses, tires, etc.
	09.03 Demonstrate safe practices while working with fluids.
10.0	Demonstrate an understanding of basic electricity and electronics.--The student will be able to:
	10.01 Explain the principles of electricity.
	10.02 Describe the basic electrical circuits.
	10.03 Identify basic electrical and electronic terms and components.
	10.04 Calculate and measure voltage, resistance and amperage.
	10.05 Explain different kinds of aerospace/transportation vehicle wiring.
	10.06 Repair and build electrical circuits.
	10.07 Demonstrate fundamental electrical testing.
11.0	Demonstrate knowledge of current and alternative fuel sources.--The student will be able to:
	11.01 Summarize how crude oil is converted to gasoline and diesel fuels.
	11.02 Describe properties of gasoline and diesel fuels.
	11.03 Summarize properties of alternative fuels.
	11.04 Compare and contrast benefits of green fuels and energy production.
12.0	Use visual and verbal communication to present employment and career opportunities in transportation.--The student will be able to:
	12.01 Present a technical report to an audience regarding a researched transportation related career using multimedia.
	12.02 Prepare and produce a portfolio representing experiences throughout the course of study.
13.0	Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities.--The student will be able to:
	13.01 Demonstrate effective communication skills.
	13.02 Participate in teamwork to accomplish specified organizational goals.
	13.03 Demonstrate cooperation and understanding with persons who are ethnically and culturally diverse.
14.0	Identify components of network systems.--The student will be able to:
	14.01 Identify structure to access internet, including hardware and software components.
	14.02 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
	14.03 Recognize essential database concepts.

CTE Standards and Benchmarks	
14.04	Define and use additional networking and internet services.
15.0	Describe and use communication features of information technology.--The student will be able to:
15.01	Define important internet communications protocols and their roles in delivering basic Internet services.
15.02	Identify basic principles of the Domain Name System (DNS).
15.03	Identify security issues related to Internet clients.
15.04	Identify and use principles of personal information management (PIM), including common applications.
15.05	Efficiently transmit text and binary files using popular Internet services.
15.06	Conduct a webcast and related services.
15.07	Represent technical issues to a non-technical audience.

Additional Information

Laboratory Activities

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

Florida 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.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) 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.

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. 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.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Energy**
Course Type: **Orientation/Exploratory**
Career Cluster: **Energy**

Secondary – Middle School	
Course Number	9709350
CIP Number	149709350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Energy career cluster. The content includes but is not limited to planning, managing and providing support and technical services related to the generation, transmission and distribution of various types of energy along with the design engineering, construction, maintenance and repair of these systems. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9709350	Introduction to Energy	TEC ED 1@2 ENG&TEC ED1@2 ELECTRICAL @7 7G IND ENGR 7G	Semester

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

<u>Standards</u>

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

01.0   Explore the generation pathway of the energy industry and the applicable career options
02.0   Explore the transmission/ distribution pathway of the energy industry and the applicable career option
03.0   Apply leadership and communication skills.
04.0   Describe how information technology is used in the Energy career cluster.
05.0   Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Energy**
Course Number: **9709350**
Course Length: **Semester**

Beginning with a broad overview of the Energy career cluster, students are introduced to the terminology, careers, history, required skills and technologies associated with each pathway in the Energy career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Explore the generation pathway of the energy industry and the applicable career options--The student will be able to:
01.01 Explore various sources of renewable and nonrenewable energy generation and the careers associated with them.
01.02 Explain ways of generating electric power.
01.03 Define and use proper terminology associated with energy generation.
01.04 Describe some of the careers available in energy generation.
01.05 Identify common characteristics of the careers in energy generation.
01.06 Identify possibilities for future careers in energy that support emerging technologies.
01.07 Describe how society has impacted the energy industry.
01.08 Identify education required to successfully enter any career in the energy generation field.
01.09 Demonstrate employability skills and hands-on skills required to successfully enter any career in the energy generation field.
01.10 Describe career ladder options and the skills or education required to progress in the energy industry.
01.11 Describe technologies associated with careers in energy generation.
02.0   Explore the transmission/ distribution pathway of the energy industry and the applicable career option--The student will be able to:
02.01 Define and use proper terminology associated with energy transmission/distribution.
02.02 Describe some of the careers available in energy transmission/distribution.

	02.03	Identify common characteristics of the careers in energy transmission/distribution.
	02.04	Identify skills required to successfully enter any career in energy transmission/distribution.
	02.05	Demonstrate employability skills and hands-on skills required to successfully enter any career in the energy transmission/distribution field.
	02.06	Describe technologies associated with careers in energy transmission/distribution.
03.0		Apply leadership and communication skills--The student will be able to:
	03.01	Discuss the establishment and history of the SkillsUSA organization.
	03.02	Identify the characteristics and responsibilities of organizational leaders.
	03.03	Demonstrate parliamentary procedure skills during a meeting.
	03.04	Participate on a committee/ collaborative group which has an assigned task and report to the class.
	03.05	Demonstrate effective communication skills through verbal conversation, written communication, delivery of a speech, a slide presentation or conducting a demonstration through participation in a Career and Technical Student Organization (CTSO).
	03.06	Use a computer to assist in the completion of a project related to the Energy career cluster.
04.0		Describe how information technology is used in the Energy career cluster--The student will be able to:
	04.01	Identify information technology (IT) careers in the Energy career cluster, including the responsibilities, tasks and skills they require.
	04.02	Identify security-related ethical and legal IT issues faced by professionals in the Energy career cluster.
05.0		Use information technology tools--The student will be able to:
	05.01	Identify the functions of web browsers and use them to access the World Wide Web and other computer resources typically used in the Energy career cluster.
	05.02	Use e-mail clients to send simple messages and files to other Internet users.
	05.03	Demonstrate ways to communicate effectively using Internet technology.
	05.04	Use different types of web search engines effectively to locate information relevant to the Energy career cluster.

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.

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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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

SkillsUSA 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Energy and Career Planning**
Course Type: **Orientation/Exploratory**
Career Cluster: **Energy**

Secondary – Middle School	
Course Number	9709360
CIP Number	149709360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Energy career cluster. The content includes but is not limited to planning, managing and providing support and technical services related to the generation, transmission and distribution of various types of energy along with the design engineering, construction, maintenance, and repair of these systems. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9709360	Introduction to Energy and Career Planning	TEC ED 1@2 ENG&TEC ED1@2 ELECTRICAL @7 7G IND ENGR 7G	Semester

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 Explore the generation pathway of the energy industry and the applicable career options
02.0 Explore the transmission/distribution pathway of the energy industry and the applicable career option
03.0 Apply leadership and communication skills.
04.0 Describe how information technology is used in the Energy career cluster.
05.0 Use information technology tools.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes:

06.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
07.0 Develop skills to locate, evaluate, and interpret career information.
08.0 Identify and demonstrate processes for making short and long term goals.
09.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
10.0 Understand the relationship between educational achievement and career choices/postsecondary options.
11.0 Identify a career cluster and related pathways that match career and education goals.
12.0 Develop a career and education plan that includes short and long-term goals, high school program of study & postsecondary/career goals.
13.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Energy and Career Planning**
Course Number: **9709360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Energy career cluster, students are introduced to the terminology, careers, history, required skills and technologies associated with each pathway in the Energy career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks
01.0   Explore the generation pathway of the energy industry and the applicable career options--The student will be able to:
01.01   Explore various sources of renewable and nonrenewable energy generation and the careers associated with them.
01.02   Explain ways of generating electric power.
01.03   Define and use proper terminology associated with energy generation.
01.04   Describe some of the careers available in energy generation.
01.05   Identify common characteristics of the careers in energy generation.
01.06   Identify possibilities for future careers in energy that support emerging technologies.
01.07   Describe how society has impacted the energy industry.
01.08   Identify skills required to successfully enter any career in the energy generation field.
01.09   Demonstrate employability skills and hands-on skills required to successfully enter any career in the energy generation field.
01.10   Describe career ladder options and the skills or education required to progress in the energy industry.
01.11   Describe technologies associated with careers in energy generation.
02.0   Explore the transmission/ distribution pathway of the energy industry and the applicable career option--The student will be able to:
02.01   Define and use proper terminology associated with energy transmission/distribution.

CTE Standards and Benchmarks		
	02.02	Describe some of the careers available in energy transmission/distribution.
	02.03	Identify common characteristics of the careers in energy transmission/distribution.
	02.04	Identify skills required to successfully enter any career in energy transmission/distribution.
	02.05	Demonstrate employability skills and hands-on skills required to successfully enter any career in the energy transmission/distribution field.
	02.06	Describe technologies associated with careers in energy transmission/distribution.
03.0	Apply leadership and communication skills--The student will be able to:	
	03.01	Discuss the establishment and history of the SkillsUSA organization.
	03.02	Identify the characteristics and responsibilities of organizational leaders.
	03.03	Demonstrate parliamentary procedure skills during a meeting.
	03.04	Participate on a committee/ collaborative group which has an assigned task and report to the class.
	03.05	Demonstrate effective communication skills through verbal conversation, written communication, delivery of a speech, a slide presentation or conducting a demonstration through participation in a Career and Technical Student Organization (CTSO).
	03.06	Use a computer to assist in the completion of a project related to the Energy career cluster.
04.0	Describe how information technology is used in the Energy career cluster--The student will be able to:	
	04.01	Identify information technology (IT) careers in the Energy career cluster, including the responsibilities, tasks and skills they require.
	04.02	Identify security-related ethical and legal IT issues faced by professionals in the Energy career cluster.
05.0	Use information technology tools--The student will be able to:	
	05.01	Identify the functions of web browsers and use them to access the World Wide Web and other computer resources typically used in the Energy career cluster.
	05.02	Use e-mail clients to send simple messages and files to other Internet users.
	05.03	Demonstrate ways to communicate effectively using Internet technology.
	05.04	Use different types of web search engines effectively to locate information relevant to the Energy career cluster.

Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes: The student will be able to**:**	
06.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
07.0	Develop skills to locate, evaluate, and interpret career information.
08.0	Identify and demonstrate processes for making short and long term goals.
09.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
10.0	Understand the relationship between educational achievement and career choices/postsecondary options.
11.0	Identify a career cluster and related pathways that match career and education goals.
12.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
13.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

Laboratory 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.

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Special Notes

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Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

SkillsUSA 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.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Fundamentals of Energy**
Program Type: **Orientation/Exploratory**
Career Cluster: **Energy**

Secondary – Middle School	
Course Number	9790300
CIP Number	149790300M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to **Course Structure** section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Energy career cluster. The content includes but is not limited to careers in the energy industry, various energy sources, and electrical power generation, transmission and distribution. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
9790300	Fundamentals of Energy	TEC ED 1@2 ENG&TEC ED1@2 ELECTRICAL @7 7G IND ENGR 7G	Semester

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

<u>**Standards**</u>

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

01.0   Explore careers and entry requirements in the energy industry.
02.0   Locate power plants in Florida.
03.0   Understand conventional electric power generation.
04.0   Discuss the value of alternative and renewable energy sources.
05.0   Understand electric power transmission and distribution.
06.0   Investigate the viability of wind energy.
07.0   Investigate the viability of solar energy.
08.0   Investigate the use of hydroelectricity.
09.0   Investigate the use of nuclear power.
10.0   Investigate the viability of bioenergy (biomass and biofuel).
11.0   Investigate the viability of geothermal energy.
12.0   Investigate energy consumption and identify ways to use energy wisely.
13.0   Discuss greenhouse gas emissions based on local fuel mixture and energy consumption.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Energy**
Course Number: **9790300**
Course Length: **Semester**

Course Description:

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Energy career cluster. The content includes but is not limited to careers in the energy industry, various energy sources and electrical power generation, transmission and distribution.

CTE Standards and Benchmarks
01.0 Explore careers and entry requirements in the energy industry--The student will be able to:
01.01   Describe careers in the energy industry.
01.02   Explain educational pathways available to gain training to begin a career in the energy industry.
01.03   Classify careers from entry-level to professional level.
01.04   Explain the importance of employability skills related to the energy industry.
01.05   Explain how destructive decisions can affect future employment.
01.06   Research and present information on an energy career including roles and responsibilities, opportunities for employment and the requirements for education and training.
02.0 Locate power plants in Florida--The student will be able to:
02.01   Describe the energy source(s) the power plants use.
02.02   Map the areas that are served by particular utility companies.
02.03   Describe different types of utility businesses (electric cooperatives, municipal, investor owned).
03.0 Understand conventional electric power generation--The student will be able to:
03.01   Explain the conventional electric power generation systems and process (coal, petroleum, hydroelectric and nuclear).
03.02   Identify various conventional electric power generation fuel sources and the cost/ efficiency/ environmental advantages and disadvantages of each.

CTE Standards and Benchmarks
03.03 Diagram conventional electrical power generation systems.
04.0 Discuss the value of alternative and renewable energy sources--The student will be able to:
04.01 Identify reasons for seeking alternatives to fossil fuels to include economic, environmental and social impacts.
04.02 Understand the difference between alternative energy and renewable energy.
04.03 Understand the economic, environmental and social impact of alternative / renewable energy.
04.04 Compare and contrast alternative / renewable sources of energy with conventional sources of energy.
05.0 Understand electric power transmission and distribution--The student will be able to:
05.01 Understand the differences between AC and DC power.
05.02 Explain the electric power transmission process.
05.03 Explain the electric power distribution process.
05.04 Discuss the need for electric distribution systems and how they are designed to operate.
05.05 Discuss the emerging technologies in electric power transmission and distribution.
06.0 Investigate the viability of wind energy--The student will be able to:
06.01 Describe the process to harness wind energy.
06.02 Evaluate the advantages and disadvantages to wind technology.
06.03 Diagram a wind turbine.
06.04 Explain what makes a location appropriate for wind energy and identify on a map.
07.0 Investigate the viability of solar energy--The student will be able to:
07.01 Describe solar energy and how it is harnessed.
07.02 Explain the difference between passive solar and active solar.
07.03 Diagram a solar cell.
07.04 Describe a central receiver system.

CTE Standards and Benchmarks

07.05	Diagram a solar thermal plant.
07.06	Explain what makes a location appropriate for solar energy and identify on a map.

08.0 Investigate the use of hydroelectricity--The student will be able to:

08.01	Describe hydroelectric energy production.
08.02	Diagram a hydroelectric plant.
08.03	Explain what makes a location appropriate for hydroelectricity and identify on a map.

09.0 Investigate the use of nuclear power--The student will be able to:

09.01	Evaluate the advantages and disadvantages of nuclear power.
09.02	Diagram a Light-Water Reactor (LWR) (e.g. control rods, coolant, containment vessel, dry casks, turbine, etc.).
09.03	Describe nuclear energy and how it is harnessed.
09.04	Discuss types of locations where building nuclear power plants would not be feasible.

10.0 Investigate the viability of bioenergy (biomass and biofuel)--The student will be able to:

10.01	Discuss the major sources of biomass.
10.02	Define biofuels (e.g. ethanol, biodiesel and methanol).
10.03	Describe the major sources, scale and impacts of biomass energy.
10.04	Diagram an electric energy producing biomass plant.
10.05	List the advantages and disadvantages of using biomass for energy (e.g. CO_2 emissions, photosynthetic efficiency, cost, etc.).

11.0 Investigate the viability of geothermal energy--The student will be able to:

11.01	Describe geothermal energy and the way it is harnessed.
11.02	Evaluate the advantages and disadvantages of using geothermal energy.
11.03	Diagram a geothermal power plant.
11.04	Explain what makes a location appropriate for geothermal energy power plant and identify on a map.

CTE Standards and Benchmarks
12.0 Investigate energy consumption and identify ways to use energy wisely--The student will be able to:
12.01   Describe energy efficiency and conservation.
12.02   Read and interpret a residential utility bill.
12.03   Learn how to measure energy use of various equipment.
12.04   Identify ways to conserve energy at home and at school.
13.0 Discuss greenhouse gas emissions based on local fuel mixture and energy consumption—The student will be able to:
13.01   Discuss sources of energy used by local utility.
13.02   Discuss local fuel mixture.
13.03   Compare greenhouse gas emissions (carbon dioxide, methane, nitrous oxide, etc.) for various types of fuel (e.g. coal, petroleum, natural gas).
13.04   Explain the importance of fuel mix diversity.

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.

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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.

Career Planning

Effective July 1, 2019, per Section 1003.4156, Florida Statutes (F.S.), for students to meet middle grades promotion requirements, a Career and Education Planning course must be completed in either sixth, seventh, or eighth grade. These courses should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in completing research-based career assessments, exploring career options and developing an online academic and career plan.

Career and Technical Student Organization (CTSO)

SkillsUSA 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.

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.