

Florida Department of Education
Curriculum Framework

Course Title: Orientation to Career Clusters
Course Type: Orientation/Exploratory

Secondary – Middle School

Course Number	8000400
CIP Number	1498999907
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the Course Structure section.
CTSO	Any CTSO as appropriate

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 seventeen career clusters. This course is a compilation of modules for each of the seventeen career clusters and is designed to provide flexibility in course offerings. Any number of modules can be selected to comprise a course that meets the needs of the students.

The content includes, but is not limited to, the orientation of students to career pathways in the career and technical education field. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. This course is recommended for students in the sixth grade, but not 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

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
8000400	Orientation to Career Clusters	ANY FIELD	Semester

Standards

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

- 01.0 Identify Florida's seventeen career clusters.
- 02.0 Identify and explore careers in the Agriculture, Food & Natural Resources cluster.
- 03.0 Identify and explore careers in the Architecture & Construction cluster.
- 04.0 Identify and explore careers in the Arts, A/V Technology & Communication cluster.
- 05.0 Identify and explore careers in the Business Management & Administration cluster.
- 06.0 Identify and explore careers in the Education & Training cluster.
- 07.0 Identify and explore careers in the Energy cluster.
- 08.0 Identify and explore careers in the Finance cluster.
- 09.0 Identify and explore careers in the Government & Public Administration cluster.
- 10.0 Identify and explore careers in the Health Science cluster.
- 11.0 Identify and explore careers in the Hospitality and Tourism cluster.
- 12.0 Identify and explore careers in the Human Services cluster.
- 13.0 Identify and explore careers in the Information Technology cluster.
- 14.0 Identify and explore careers in the Law, Public Safety & Security cluster.
- 15.0 Identify and explore careers in the Manufacturing cluster.
- 16.0 Identify and explore careers in the Marketing, Sales & Service cluster.
- 17.0 Identify and explore careers in the Engineering and Technology Education cluster.
- 18.0 Identify and explore careers in the Transportation, Distribution & Logistics cluster.
- 19.0 Describe leadership skills.

**Florida Department of Education
Student Performance Standards**

Course Title: Orientation to Career Clusters
Course Number: 8000400
Course Credit: Semester

Course Description:

This course is a broad overview of the seventeen career clusters offered in Florida. This course provides hands-on introductory activities for each career cluster as well as opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Identify Florida’s seventeen career clusters. The student will be able to:
01.01	List Florida’s seventeen career clusters.
01.02	Research the national career clusters website: http://www.careertech.org/ .
01.03	Identify the Career and Technical Student Organizations (CTSO) appropriate for Career and Technical Education (CTE) programs.
01.04	Explain the purpose of a CTSO.
02.0	Identify and explore careers in the Agriculture, Food & Natural Resources cluster. The student will be able to:
02.01	Identify the pathways in the Agriculture, Food & Natural Resources career cluster and the careers in each pathway.
02.02	Describe the types of places that employ individuals who have careers in the Agriculture, Food & Natural Resources career cluster.
02.03	Describe the variety of tasks performed by individuals who have careers in the Agriculture, Food & Natural Resources career cluster.
02.04	List the skills, abilities, and talents needed for careers in the Agriculture, Food & Natural Resources career cluster.
02.05	Identify the level of training and education required for careers in the Agriculture, Food & Natural Resources career cluster.
02.06	Research a career in the Agriculture, Food & Natural Resources career cluster and present findings to the class.
02.07	Apply math, science, and reading skills in the completion of a project or activity related to the Agriculture, Food & Natural Resources career cluster.
03.0	Identify and explore careers in the Architecture & Construction cluster. The student will be able to:
03.01	Identify the pathways in the Architecture & Construction career cluster and the careers in each pathway.

CTE Standards and Benchmarks

03.02 Describe the types of places that employ individuals who have careers in the Architecture & Construction career cluster.

03.03 Describe the variety of tasks performed by individuals who have careers in the Architecture & Construction career cluster.

03.04 List the skills, abilities, and talents needed for careers in the Architecture & Construction career cluster.

03.05 Identify the level of training and education required for careers in the Architecture & Construction career cluster.

03.06 Research a career in the Architecture & Construction career cluster and present findings to the class.

03.07 Apply math, science, and reading skills in the completion of a project or activity related to the Architecture & Construction career cluster.

04.0 Identify and explore careers in the Arts, A/V Technology & Communication cluster. The student will be able to:

04.01 Identify the pathways in the Arts, A/V Technology & Communication career cluster and the careers in each pathway.

04.02 Describe the types of places that employ individuals who have careers in the Arts, A/V Technology & Communication career cluster.

04.03 Describe the variety of tasks performed by individuals who have careers in the Arts, A/V Technology & Communication career cluster.

04.04 List the skills, abilities, and talents needed for careers in the Arts, A/V Technology & Communication career cluster.

04.05 Identify the level of training and education required for careers in the Arts, A/V Technology & Communication career cluster.

04.06 Research a career in the Arts, A/V Technology & Communication career cluster and present findings to the class.

04.07 Apply math, science, and reading skills in the completion of a project or activity related to the Arts, A/V Technology & Communication career cluster.

05.0 Identify and explore careers in the Business, Management & Administration cluster. The student will be able to:

05.01 Identify the pathways in the Business, Management & Administration career cluster and the careers in each pathway.

05.02 Describe the types of places that employ individuals who have careers in the Business Management & Administration career cluster.

05.03 Describe the variety of tasks performed by individuals who have careers in the Business Management & Administration career cluster.

05.04 List the skills, abilities, and talents needed for careers in the Business Management & Administration career cluster.

05.05 Identify the level of training and education required for careers in the Business Management & Administration career cluster.

05.06 Research a career in the Business Management & Administration career cluster and present findings to the class.

05.07 Apply math, science, and reading skills in the completion of a project or activity related to the Business Management & Administration career cluster.

CTE Standards and Benchmarks

06.0 Identify and explore careers in the Education & Training cluster. The student will be able to:

06.01 Identify the pathways in the Education & Training career cluster and the careers in each pathway.

06.02 Describe the types of places that employ individuals who have careers in the Education & Training career cluster.

06.03 Describe the variety of tasks performed by individuals who have careers in the Education & Training career cluster.

06.04 List the skills, abilities, and talents needed for careers in the Education & Training career cluster.

06.05 Identify the level of training and education required for careers in the Education & Training career cluster.

06.06 Research a career in the Education & Training career cluster and present findings to the class.

06.07 Apply math, science, and reading skills in the completion of a project or activity related to the Education & Training career cluster.

07.0 Identify and explore careers in the Energy cluster. The student will be able to:

07.01 Identify the pathways in the Energy career cluster and the careers in each pathway.

07.02 Describe the types of places that employ individuals who have careers in the Energy career cluster.

07.03 Describe the variety of tasks performed by individuals who have careers in the Energy career cluster.

07.04 List the skills, abilities, and talents needed for careers in the Energy career cluster.

07.05 Identify the level of training and education required for careers in the Energy career cluster.

07.06 Research a career in the Energy career cluster and present findings to the class.

07.07 Apply math, science, and reading skills in the completion of a project or activity related to the Energy career cluster.

08.0 Identify and explore careers in the Finance cluster. The student will be able to:

08.01 Identify the pathways in the Finance career cluster and the careers in each pathway.

08.02 Describe the types of places that employ individuals who have careers in the Finance career cluster.

08.03 Describe the variety of tasks performed by individuals who have careers in the Finance career cluster.

08.04 List the skills, abilities, and talents needed for careers in the Finance career cluster.

08.05 Identify the level of training and education required for careers in the Finance career cluster.

08.06 Research a career in the Finance career cluster and present findings to the class.

CTE Standards and Benchmarks

08.07 Apply math, science, and reading skills in the completion of a project or activity related to the Finance career cluster.

09.0 Identify and explore careers in the Government & Public Administration cluster. The student will be able to:

09.01 Identify the pathways in the Government & Public Administration career cluster and the careers in each pathway.

09.02 Describe the types of places that employ individuals who have careers in the Government & Public Administration career cluster.

09.03 Describe the variety of tasks performed by individuals who have careers in the Government & Public Administration career cluster.

09.04 List the skills, abilities, and talents needed for careers in the Government & Public Administration career cluster.

09.05 Identify the level of training and education required for careers in the Government & Public Administration career cluster.

09.06 Research a career in the Government & Public Administration career cluster and present findings to the class.

09.07 Apply math, science, and reading skills in the completion of a project or activity related to the Government & Public Administration career cluster.

10.0 Identify and explore careers in the Health Science cluster. The student will be able to:

10.01 Identify the pathways in the Health Science career cluster and the careers in each pathway.

10.02 Describe the types of places that employ individuals who have careers in the Health Science career cluster.

10.03 Describe the variety of tasks performed by individuals who have careers in the Health Science career cluster.

10.04 List the skills, abilities, and talents needed for careers in the Health Science career cluster.

10.05 Identify the level of training and education required for careers in the Health Science career cluster.

10.06 Research a career in the Health Science career cluster and present findings to the class.

10.07 Apply math, science, and reading skills in the completion of a project or activity related to the Health Science career cluster.

11.0 Identify and explore careers in the Hospitality & Tourism cluster. The student will be able to:

11.01 Identify the pathways in the Hospitality & Tourism career cluster and the careers in each pathway.

11.02 Describe the types of places that employ individuals who have careers in the Hospitality & Tourism career cluster.

11.03 Describe the variety of tasks performed by individuals who have careers in the Hospitality & Tourism career cluster.

11.04 List the skills, abilities, and talents needed for careers in the Hospitality & Tourism career cluster.

11.05 Identify the level of training and education required for careers in the Hospitality & Tourism career cluster.

CTE Standards and Benchmarks

11.06 Research a career in the Hospitality & Tourism career cluster and present findings to the class.

11.07 Apply math, science, and reading skills in the completion of a project or activity related to the Hospitality & Tourism career cluster.

12.0 Identify and explore careers in the Human Services cluster. The student will be able to:

12.01 Identify the pathways in the Human Services career cluster and the careers in each pathway.

12.02 Describe the types of places that employ individuals who have careers in the Human Services career cluster.

12.03 Describe the variety of tasks performed by individuals who have careers in the Human Services career cluster.

12.04 List the skills, abilities, and talents needed for careers in the Human Services career cluster.

12.05 Identify the level of training and education required for careers in the Human Services career cluster.

12.06 Research a career in the Human Services career cluster and present findings to the class.

12.07 Apply math, science, and reading skills in the completion of a project or activity related to the Human Services career cluster.

13.0 Identify and explore careers in the Information Technology cluster. The student will be able to:

13.01 Identify the pathways in the Information Technology career cluster and the careers in each pathway.

13.02 Describe the types of places that employ individuals who have careers in the Information Technology career cluster.

13.03 Describe the variety of tasks performed by individuals who have careers in the Information Technology career cluster.

13.04 List the skills, abilities, and talents needed for careers in the Information Technology career cluster.

13.05 Identify the level of training and education required for careers in the Information Technology career cluster.

13.06 Research a career in the Information Technology career cluster and present findings to the class.

13.07 Apply math, science, and reading skills in the completion of a project or activity related to the Information Technology career cluster.

14.0 Identify and explore careers in the Law, Public Safety & Security cluster. The student will be able to:

14.01 Identify the pathways in the Law, Public Safety & Security career cluster and the careers in each pathway.

14.02 Describe the types of places that employ individuals who have careers in the Law, Public Safety & Security career cluster.

14.03 Describe the variety of tasks performed by individuals who have careers in the Law, Public Safety & Security career cluster.

14.04 List the skills, abilities, and talents needed for careers in the Law, Public Safety & Security career cluster.

CTE Standards and Benchmarks

14.05 Identify the level of training and education required for careers in the Law, Public Safety & Security career cluster.

14.06 Research a career in the Law, Public Safety & Security career cluster and present findings to the class.

14.07 Apply math, science, and reading skills in the completion of a project or activity related to the Law, Public Safety & Security career cluster.

15.0 Identify and explore careers in the Manufacturing cluster. The student will be able to:

15.01 Identify the pathways in the Manufacturing career cluster and the careers in each pathway.

15.02 Describe the types of places that employ individuals who have careers in the Manufacturing career cluster.

15.03 Describe the variety of tasks performed by individuals who have careers in the Manufacturing career cluster.

15.04 List the skills, abilities, and talents needed for careers in the Manufacturing career cluster.

15.05 Identify the level of training and education required for careers in the Manufacturing career cluster.

15.06 Research a career in the Manufacturing career cluster and present findings to the class.

15.07 Apply math, science, and reading skills in the completion of a project or activity related to the Manufacturing career cluster.

16.0 Identify and explore careers in the Marketing, Sales & Service cluster. The student will be able to:

16.01 Identify the pathways in the Marketing, Sales & Service career cluster and the careers in each pathway.

16.02 Describe the types of places that employ individuals who have careers in the Marketing, Sales & Service career cluster.

16.03 Describe the variety of tasks performed by individuals who have careers in the Marketing, Sales & Service career cluster.

16.04 List the skills, abilities, and talents needed for careers in the Marketing, Sales & Service career cluster.

16.05 Identify the level of training and education required for careers in the Marketing, Sales & Service career cluster.

16.06 Research a career in the Marketing, Sales & Service career cluster and present findings to the class.

16.07 Apply math, science, and reading skills in the completion of a project or activity related to the Marketing, Sales & Service career cluster.

17.0 Identify and explore careers in Engineering and Technology Education. The student will be able to:

17.01 Identify the pathways in Engineering and Technology Education.

17.02 Describe the types of places that employ individuals who have careers in Engineering and Technology Education.

17.03 Describe the variety of tasks performed by individuals who have careers in Engineering and Technology Education.

CTE Standards and Benchmarks

17.04 List the skills, abilities, and talents needed for careers in Engineering and Technology Education.

17.05 Identify the level of training and education required for careers in Engineering and Technology Education.

17.06 Research a career in Engineering and Technology Education and present findings to the class.

17.07 Apply math, science, and reading skills in the completion of a project or activity related to the Engineering and Technology Education.

18.0 Identify and explore careers in the Transportation & Logistics cluster. The student will be able to:

18.01 Identify the pathways in the Transportation & Logistics career cluster and the careers in each pathway.

18.02 Describe the types of places that employ individuals who have careers in the Transportation & Logistics career cluster.

18.03 Describe the variety of tasks performed by individuals who have careers in the Transportation & Logistics career cluster.

18.04 List the skills, abilities, and talents needed for careers in the Transportation & Logistics career cluster.

18.05 Identify the level of training and education required for careers in the Transportation & Logistics career cluster.

18.06 Research a career in the Transportation & Logistics career cluster and present findings to the class.

18.07 Apply math, science, and reading skills in the completion of a project or activity related to the Transportation & Logistics career cluster.

19.0 Describe leadership skills. The student will be able to:

19.01 Identify the Career and Technical Student Organization(s) that are appropriate for CTE programs in each of the career clusters.

19.02 Describe the leadership opportunities available to members of the CTSOs identified above.

19.03 Investigate the CTSOs at your school and/or in your school district (e.g., membership requirements, dues, activities, events).

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 Agriculture, Food, & Natural Resources
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food, and Natural Resources

Secondary – Middle School

Course Number	8021100
CIP Number	148021100M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

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 Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8021100	Introduction to Agriculture, Food, & Natural Resources	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Demonstrate an understanding of the Food Products & Processing Systems career pathway.
- 02.0 Demonstrate an understanding of the Plant Systems career pathway.
- 03.0 Demonstrate an understanding of the Animal Systems career pathway.
- 04.0 Demonstrate an understanding of the Power, Structure, and Technical Systems career pathway.
- 05.0 Demonstrate an understanding of the Natural Resource Systems career pathway.
- 06.0 Demonstrate an understanding of the Environmental Service Systems career pathway.
- 07.0 Demonstrate an understanding of the Agribusiness Systems career pathway.
- 08.0 Apply leadership and communication skills.
- 09.0 Describe how information technology is used in the Agriculture, Food & Natural Resources career cluster.
- 10.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Agriculture, Food, & Natural Resources
Course Number: 8021100
Course Length: Semester

Course Description:

Beginning with a broad overview of the Agriculture, Food, and Natural Resources career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Agriculture, Food, and Natural Resources 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 Food Products & Processing Systems career pathway. The student will be able to:
01.01	Define and use proper terminology associated with the Food Products & Processing Systems career pathway.
01.02	Describe some of the careers available in the Food Products & Processing Systems career pathway.
01.03	Identify common characteristics of the careers in the Food Products & Processing Systems career pathway.
01.04	Research the history of the Food Products & Processing 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 Food Products & Processing Systems career pathway.
01.06	Describe technologies associated in careers within the Food Products & Processing Systems career pathway.
02.0	Demonstrate an understanding of the Plant Systems career pathway. The student will be able to:
02.01	Define and use proper terminology associated with the Plant Systems career pathway.
02.02	Describe some of the careers available in the Plant Systems career pathway.
02.03	Identify common characteristics of the careers in the Plant Systems career pathway.
02.04	Research the history of the Plant Systems career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Plant Systems career pathway.
02.06	Describe technologies associated in careers within the Plant Systems career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Animal Systems career pathway. The student will be able to:

03.01 Define and use proper terminology associated with the Animal Systems career pathway.

03.02 Describe some of the careers available in the Animal Systems career pathway.

03.03 Identify common characteristics of the careers in the Animal Systems career pathway.

03.04 Research the history of the Animal Systems career pathway and describe how the careers have evolved and impacted society.

03.05 Identify skills required to successfully enter any career in the Animal Systems career pathway.

03.06 Describe technologies associated in careers within the Animal Systems career pathway.

04.0 Demonstrate an understanding of the Power, Structural and Technological Systems career pathway. The student will be able to:

04.01 Define and use proper terminology associated with the Power, Structural and Technological Systems career pathway.

04.02 Describe some of the careers available in the Power, Structural and Technological Systems career pathway.

04.03 Identify common characteristics of the careers in the Power, Structural and Technological Systems career pathway.

04.04 Research the history of the Power Structural and Technological Systems career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Power Structural and Technological Systems career pathway.

04.06 Describe technologies associated in careers within the Power Structural and Technological Systems career pathway.

05.0 Demonstrate an understanding of the Natural Resource Systems career pathway. The student will be able to:

05.01 Define and use proper terminology associated with the Natural Resource Systems career pathway.

05.02 Describe some of the careers available in the Natural Resource Systems career pathway.

05.03 Identify common characteristics of the careers in the Natural Resource Systems career pathway.

05.04 Research the history of the Natural Resource Systems career pathway and describe how the careers have evolved and impacted society.

05.05 Identify skills required to successfully enter any career in the Natural Resource Systems career pathway.

05.06 Describe technologies associated in careers within the Natural Resource Systems career pathway.

06.0 Demonstrate an understanding of the Environmental Service Systems career pathway. The student will be able to:

CTE Standards and Benchmarks

06.01 Define and use proper terminology associated with the Environmental Service Systems career pathway.

06.02 Describe some of the careers available in the Environmental Service Systems career pathway.

06.03 Identify common characteristics of the careers in Environmental Service Systems career pathway.

06.04 Research the history of the Environmental Service Systems career pathway and describe how the careers have evolved and impacted society.

06.05 Identify skills required to successfully enter any career in the Environmental Service Systems career pathway.

06.06 Describe technologies associated in careers within the Environmental Service Systems career pathway.

07.0 Demonstrate an understanding of the Agribusiness Systems career pathway. The student will be able to:

07.01 Define and use proper terminology associated with the Agribusiness Systems career pathway.

07.02 Describe some of the careers available in the Agribusiness Systems career pathway.

07.03 Identify common characteristics of the careers in Environmental Service Systems career pathway.

07.04 Research the history of the Agribusiness Systems career pathway and describe how the careers have evolved and impacted society.

07.05 Identify skills required to successfully enter any career in the Agribusiness Systems career pathway.

07.06 Describe technologies associated in careers within the Agribusiness Systems career pathway.

08.0 Apply leadership and communication skills. The student will be able to:

08.01 Discuss the establishment and history of the FFA 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 project related to the Agriculture, Food, & Natural Resources career cluster.

09.0 Describe how information technology is used in the Agriculture, Food & Natural Resources career cluster. The student will be able to:

09.01 Identify information technology (IT) careers in the Agriculture, Food & Natural Resources career cluster, including the responsibilities, tasks and skills they require.

CTE Standards and Benchmarks

09.02	Relate information technology project management concepts and terms to careers in the Agriculture, Food & Natural Resources career cluster.
09.03	Manage information technology components typically used in professions of the Agriculture, Food & Natural Resources career cluster.
09.04	Identify security-related ethical and legal IT issues faced by professionals in the Agriculture, Food & Natural Resources 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 Agriculture, Food & Natural Resources 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 Agriculture, Food & Natural Resources 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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Career and Technical Student Organization (CTSO)

National FFA Organization (FFA) 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 Agriculture, Food, & Natural Resources and Career Planning
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food, and Natural Resources

Secondary – Middle School

Course Number	8021110
CIP Number	148021100M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

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 Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8021110	Introduction to Agriculture, Food, & Natural Resources and Career Planning	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Demonstrate an understanding of the Food Products & Processing Systems career pathway.
- 02.0 Demonstrate an understanding of the Plant Systems career pathway.
- 03.0 Demonstrate an understanding of the Animal Systems career pathway.
- 04.0 Demonstrate an understanding of the Power, Structure, and Technical Systems career pathway.
- 05.0 Demonstrate an understanding of the Natural Resource Systems career pathway.
- 06.0 Demonstrate an understanding of the Environmental Service Systems career pathway.
- 07.0 Demonstrate an understanding of the Agribusiness Systems career pathway.
- 08.0 Apply leadership and communication skills.
- 09.0 Describe how information technology is used in the Agriculture, Food & Natural Resources career cluster.
- 10.0 Use information technology tools.

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

- 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 Agriculture, Food, & Natural Resources and Career Planning
Course Number: 8021110
Course Length: Semester

Course Description:

Beginning with a broad overview of the Agriculture, Food, and Natural Resources career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Agriculture, Food, and Natural Resources 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 Food Products & Processing Systems career pathway. The student will be able to:
01.01	Define and use proper terminology associated with the Food Products & Processing Systems career pathway.
01.02	Describe some of the careers available in the Food Products & Processing Systems career pathway.
01.03	Identify common characteristics of the careers in the Food Products & Processing Systems career pathway.
01.04	Research the history of the Food Products & Processing 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 Food Products & Processing Systems career pathway.
01.06	Describe technologies associated in careers within the Food Products & Processing Systems career pathway.
02.0	Demonstrate an understanding of the Plant Systems career pathway. The student will be able to:
02.01	Define and use proper terminology associated with the Plant Systems career pathway.
02.02	Describe some of the careers available in the Plant Systems career pathway.
02.03	Identify common characteristics of the careers in the Plant Systems career pathway.
02.04	Research the history of the Plant Systems career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Plant Systems career pathway.
02.06	Describe technologies associated in careers within the Plant Systems career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Animal Systems career pathway. The student will be able to:

03.01 Define and use proper terminology associated with the Animal Systems career pathway.

03.02 Describe some of the careers available in the Animal Systems career pathway.

03.03 Identify common characteristics of the careers in the Animal Systems career pathway.

03.04 Research the history of the Animal Systems career pathway and describe how the careers have evolved and impacted society.

03.05 Identify skills required to successfully enter any career in the Animal Systems career pathway.

03.06 Describe technologies associated in careers within the Animal Systems career pathway.

04.0 Demonstrate an understanding of the Power, Structural and Technological Systems career pathway. The student will be able to:

04.01 Define and use proper terminology associated with the Power, Structural and Technological Systems career pathway.

04.02 Describe some of the careers available in the Power, Structural and Technological Systems career pathway.

04.03 Identify common characteristics of the careers in the Power, Structural and Technological Systems career pathway.

04.04 Research the history of the Power, Structural and Technological Systems career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Power, Structural and Technological Systems career pathway.

04.06 Describe technologies associated in careers within the Power, Structural, and Technological Systems career pathway.

05.0 Demonstrate an understanding of the Natural Resource Systems career pathway. The student will be able to:

05.01 Define and use proper terminology associated with the Natural Resource Systems career pathway.

05.02 Describe some of the careers available in the Natural Resource Systems career pathway.

05.03 Identify common characteristics of the careers in the Natural Resource Systems career pathway.

05.04 Research the history of the Natural Resource Systems career pathway and describe how the careers have evolved and impacted society.

05.05 Identify skills required to successfully enter any career in the Natural Resource Systems career pathway.

05.06 Describe technologies associated in careers within the Natural Resource Systems career pathway.

06.0 Demonstrate an understanding of the Environmental Service Systems career pathway. The student will be able to:

CTE Standards and Benchmarks

06.01 Define and use proper terminology associated with the Environmental Service Systems career pathway.

06.02 Describe some of the careers available in the Environmental Service Systems career pathway.

06.03 Identify common characteristics of the careers in Environmental Service Systems career pathway.

06.04 Research the history of the Environmental Service Systems career pathway and describe how the careers have evolved and impacted society.

06.05 Identify skills required to successfully enter any career in the Environmental Service Systems career pathway.

06.06 Describe technologies associated in careers within the Environmental Service Systems career pathway.

07.0 Demonstrate an understanding of the Agribusiness Systems career pathway. The student will be able to:

07.01 Define and use proper terminology associated with the Agribusiness Systems career pathway.

07.02 Describe some of the careers available in the Agribusiness Systems career pathway.

07.03 Identify common characteristics of the careers in Environmental Service Systems career pathway.

07.04 Research the history of the Agribusiness Systems career pathway and describe how the careers have evolved and impacted society.

07.05 Identify skills required to successfully enter any career in the Agribusiness Systems career pathway.

07.06 Describe technologies associated in careers within the Agribusiness Systems career pathway.

08.0 Apply leadership and communication skills. The student will be able to:

08.01 Discuss the establishment and history of the FFA 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 project related to the Agriculture, Food, & Natural Resources career cluster.

08.07 Describe the diversity of career opportunities in agriculture and its related fields through a Foundational SAE.

09.0 Describe how information technology is used in the Agriculture, Food & Natural Resources career cluster. The student will be able to:

CTE Standards and Benchmarks

09.01 Identify information technology (IT) careers in the Agriculture, Food & Natural Resources career cluster, including the responsibilities, tasks and skills they require.

09.02 Relate information technology project management concepts and terms to careers in the Agriculture, Food & Natural Resources career cluster.

09.03 Manage information technology components typically used in professions of the Agriculture, Food & Natural Resources career cluster.

09.04 Identify security-related ethical and legal IT issues faced by professionals in the Agriculture, Food & Natural Resources 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 Agriculture, Food & Natural Resources 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 Agriculture, Food & Natural Resources career cluster.

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

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 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)

National FFA Organization (FFA) 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 Agriculture, Food, and Natural Resource Systems
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food, and Natural Resources

Secondary – Middle School

Course Number	8021300
CIP Number	148021300M
Grade Level	6-8
Standard Length	year
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

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 Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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 year. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8021300	Fundamentals of Agriculture, Food, and Natural Resource Systems	AGRICULTUR 1 @2 EXP AG @4	year

Standards

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

- 01.0 Summarize the evolution of production agriculture.
- 02.0 Differentiate between animal welfare and ethical treatment of animals
- 03.0 Explain skills and principles used in dairy production.
- 04.0 Explain skills and principles used in livestock production.
- 05.0 Explain skills and principles used in poultry production.
- 06.0 Explain skills and principles used in aquaculture production
- 07.0 Explain skills and principles used in vegetable production.
- 08.0 Investigate and demonstrate skills and principles used in nursery production.
- 09.0 Apply scientific and technical skills in production agriculture.
- 10.0 Manage leadership and communication skills
- 11.0 Examine good work habits, and career planning in agriculture production.
- 12.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in production agriculture.
- 13.0 Identify components of network systems.
- 14.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Agriculture, Food, and Natural Resource Systems
Course Number: 8021300
Course Length: Semester

Course Description:

The next series in the world of the Agriculture, Food, and Natural Resources career cluster, students will be engaged in activities with terminology, careers, history, required skills, and technologies associated with each pathway in the Agriculture, Food, and Natural Resources career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Summarize the evolution of production agriculture. The student will be able to:
01.01	Describe the importance of agriculture on a world, national, state and community scale.
01.02	Distinguish the major agricultural production areas of the United States.
01.03	Distinguish agriculture products produced in Florida.
01.04	Interpret how changes in production practices, population, and land use have influenced the agriculture economy.
01.05	Demonstrate how development of new technology has affected agriculture production.
01.06	Examine the changes in agriculture careers that reflect the changes in production methods.
02.0	Differentiate between animal welfare and ethical treatment of animals. The student will be able to:
02.01	Describe the proper handling of production animals.
02.02	Compare animal welfare and animal rights.
02.03	Explain how animal welfare and animal rights advocate groups impact production agriculture.
02.04	Summarize animal cruelty and the consequences of cruel treatment of animals.
03.0	Explain skills and principles used in dairy production. The student will be able to:
03.01	Explain the difference between breeds of dairy cattle.

CTE Standards and Benchmarks

03.02 Demonstrate knowledge of proper health and nutrition for dairy animals.

03.03 Explain the safety procedures used for dairy products.

03.04 Compare different styles of dairies and milking parlors.

03.05 Identify the varieties of dairy products and the methods of processing.

03.06 Create a dairy product.

04.0 Explain skills and principles used in livestock production. The student will be able to:

04.01 Compare the different breeds of livestock.

04.02 Differentiate the different cuts and grading of meat.

04.03 Evaluate proper health and nutrition for livestock animals.

04.04 Demonstrate knowledge of terminology for animals based on species and condition (eg. age, sex, bred, etc...)

04.05 Determine different reproduction methods, and the process of selective breeding.

04.06 Explain how the use of biotechnology has impacted the livestock industry.

05.0 Explain skills and principles used in poultry production. The student will be able to:

05.01 Compare different types of poultry and their uses in production agriculture.

05.02 Differentiate proper techniques for classification and grading of poultry and poultry products.

05.03 Describe proper safe handling techniques for poultry products.

05.04 Evaluate knowledge of health and nutrition for poultry.

05.05 Explain how the use of biotechnology has impacted the poultry industry.

06.0 Explain skills and principles used in aquaculture production. The student will be able to:

06.01 Compare the different breeds of aquatic species.

06.02 Evaluate proper health and nutrition for aquatic species.

06.03 Demonstrate knowledge of terminology for aquatic species.

CTE Standards and Benchmarks

06.04 Determine different reproduction methods.

06.05 Explain how the use of biotechnology has impacted the aquatic species industry.

07.0 Explain skills and principles used in vegetable production. The student will be able to:

07.01 Produce a vegetable crop.

07.02 Compare the components of soil.

07.03 Perform a soil test.

07.04 Describe how climate can affect crop production.

07.05 Compile knowledge of growing seasons for a geographic region.

07.06 Explain the use of Best Management Practices in crop production.

07.07 Investigate the impact of pests on crop yields.

07.08 Model the safety precautions on a pesticide and fertilizer label.

07.09 Assess proper irrigation methods for crops.

07.10 Analyze knowledge of harvesting techniques and equipment

07.11 Compare types of storage facilities.

07.12 Explain how the use of biotechnology has impacted vegetable crop production.

08.0 Explain skills and principles used in nursery production. The student will be able to:

08.01 Perform plant propagation.

08.02 Develop a growing schedule for nursery plants.

08.03 Model methods for Integrated Pest Management.

08.04 Compare types of growing media.

08.05 Identify nutrients necessary for plant growth from the periodic table and their functions.

08.06 Identify plants based on common and scientific names.

CTE Standards and Benchmarks

08.07 Describe principles for plant growth.

08.08 Explain different methods of irrigation.

08.09 Explain how the use of biotechnology has impacted plant production.

09.0 Apply scientific and technical skills in production agriculture. The student will be able to:

09.01 Formulate scientifically investigable questions, construct investigations, collect and evaluate data, and develop scientific recommendations based on findings.

09.02 Employ technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email, and internet applications

10.0 Manage leadership and communication skills. The student will be able to:

10.01 Discuss the establishment and history of the FFA organization.

10.02 Compare the characteristics and responsibilities of organizational leaders.

10.03 Demonstrate parliamentary procedure skills during a meeting.

10.04 Participate on a committee which has an assigned task and report to the class.

10.05 Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.

10.06 Use a computer to assist in the completion of an agricultural project.

11.0 Demonstrate good work habits, and career planning in agriculture production. The student will be able to:

11.01 Identify attitudes and habits necessary to achieve career success.

11.02 Describe personality aspects to consider when choosing a career.

11.03 Identify the basic steps in career planning.

11.04 Identify and research career opportunities in agriculture and its related fields through a Foundational SAE.

12.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in production agriculture. The student will be able to:

12.01 Apply basic mathematics operations to solve agricultural problems.

12.02 Correctly use measuring devices and utilize measurements to solve agricultural problems.

12.03 Prepare written and/or oral materials using correct English grammar.

CTE Standards and Benchmarks

12.04 Identify the main idea in oral presentations and/or written materials.

12.05 Locates, organizes, and interprets information from a variety of agricultural sources.

12.06 Describe the historical evolution of agriculture.

12.07 Select and study a problem that can be tested under controlled conditions to establish a hypothesis or to illustrate a known law.

13.0 Identify components of network systems. The student will be able to:

13.01 Identify structure to access internet, including hardware and software components.

13.02 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.

13.03 Recognize essential database concepts.

13.04 Define and use additional networking and internet services.

14.0 Describe and use communication features of information technology. The student will be able to:

14.01 Define important internet communications protocols and their roles in delivering basic Internet services.

14.02 Identify basic principles of the Domain Name System (DNS).

14.03 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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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)

National FFA Organization (FFA) 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 Agriculture, Food, and Natural Resource Services
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food, and Natural Resources

Secondary – Middle School

Course Number	8021400
CIP Number	148021300M
Grade Level	6-8
Standard Length	year
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

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 Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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 year. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8021400	Fundamentals of Agriculture, Food, and Natural Resource Services	Agriculture 1 @2 EXP AG @4	year

Standards

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

- 01.0 Identify components of agribusiness.
- 02.0 Recommend appropriate agriculture communications concepts
- 03.0 Summarize skills used in landscape services.
- 04.0 Incorporate knowledge and skills involved with food science.
- 05.0 Construct a floral design.
- 06.0 Communicate skills gained from small, companion animal care.
- 07.0 Recommend leadership and communication styles.
- 08.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.
- 09.0 Recognize the value of responsibility, good work habits, and planning for career opportunities in agriculture services.
- 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 Agriculture, Food and Natural Resource Services
Course Number: 8021400
Course Length: 1 Year

Course Description:

This course is designed to develop competencies in the area of agriculture services. This includes: the global impact of agribusiness, communications, landscaping, food science, floral design, companion animal care, as well leadership skills. Laboratory-based activities are an integral part of this course. These include safe use and application of appropriate technology, scientific testing and observation equipment.

CTE Standards and Benchmarks	
01.0	Identify components of agribusiness. The student will be able to:
01.01	Describe the business cycle.
01.02	Complete a profit/loss statement.
01.03	Distinguish between types of competition practices.
01.04	Demonstrate proper methods of recording merchandise.
01.05	Summarize proper use of customer service skills.
01.06	Explain proper management techniques.
02.0	Recommend appropriate agriculture communications concepts. The student will be able to :
02.01	Sort and classify types of communication used in Agriculture.
02.02	Create messages using various forms of communication.
02.03	Generate a speech.
02.04	Compare and contrast different types of media.
02.05	Create a photo story.
02.06	Demonstrate proper ethics in communication.

CTE Standards and Benchmarks

02.07 Identify and compare regulating agencies.

02.08 Evaluate careers in agriculture communications.

03.0 Summarize skills used in landscape services. The student will be able to:

03.01 Distinguish plants based on common and scientific name.

03.02 Conduct a soil test.

03.03 Construct an irrigation system.

03.04 Compare and contrast landscape styles.

03.05 Select plants based on environmental factors.

03.06 Design a landscape.

03.07 Model personal safety and knowledge of equipment.

03.08 Explain proper procedures for applying pesticides and fertilizer based on Best Management practices.

03.09 Inventory an ecosystem.

03.10 Apply knowledge of invasive plants.

03.11 Apply knowledge of customer interactions

04.0 Incorporate knowledge and skills involved with food science. The student will be able to:

04.01 Explain the process from farm to consumer

04.02 Investigate safe food handling practices, and their regulating agencies

04.03 Document changes in food preservation and how it impacted our civilization

04.04 Recognize food processing and packaging procedures.

04.05 Explain how to develop and market a food product.

04.06 Describe the components of a nutrition label

04.07 Create and market a food product.

CTE Standards and Benchmarks

05.0 Construct a floral design. The student will be able to:

05.01 Compare and contrast historical and cultural contributions to design.

05.02 Identify types of arrangements and products.

05.03 Demonstrate knowledge of floral pricing.

05.04 Verify flowers by common and scientific name.

05.05 Assemble a floral arrangement.

05.06 Summarize knowledge of inventory skills.

05.07 Develop a marketing plan.

06.0 Communicate skills gained from small, companion animal care. The student will be able to:

06.01 Demonstrate knowledge of proper nutrition and health in small and companion animals.

06.02 Differentiate between animal welfare and animal rights.

06.03 Describe the training process for service animals

06.04 Compare and contrast career opportunities available for companion animals based on animal type and breed.

06.05 Explain proper care for a small animal.

07.0 Recommend leadership and communication styles. The student will be able to:

07.01 Explore the establishment and history of the FFA organization.

07.02 Analyze the characteristics and responsibilities of organizational leaders.

07.03 Demonstrate parliamentary procedure skills during a meeting.

07.04 Evaluate a committee which has an assigned task and report to the class.

07.05 Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.

07.06 Use a computer to assist in the completion of an agricultural project.

08.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology. The student will be able to:

CTE Standards and Benchmarks

08.01 Apply basic mathematics operations to solve agricultural problems.

08.02 Correctly use measuring devices and utilize measurements to solve agricultural problems.

08.03 Apply the scientific method to solve an agricultural problem.

08.04 Prepare written and/or oral materials using correct English grammar.

08.05 Identify the main idea in oral presentations and/or written materials.

08.06 Locates, organizes, and interprets information from a variety of agricultural sources.

08.07 Describe the historical evolution of agriculture.

09.0 Recognize the value of responsibility, good work habits, and planning for career opportunities in agriculture services. The student will be able to:

09.01 Identify attitudes and habits necessary to achieve career success.

09.02 Describe personality aspects to consider when choosing a career.

09.03 Identify the basic steps in career planning.

09.04 Develop basic career plan.

09.05 Identify and research career opportunities in agriculture and its related fields through a Foundational SAE.

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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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)

National FFA Organization (FFA) 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: Orientation to Agriscience and Career Planning
 Course Type: Orientation/Exploratory
 Career Cluster: Agriculture, Food and Natural Resources

Secondary – Middle School

Course Number	8100110
CIP Number	01019910OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the Course Structure section.
CTSO	FFA

Purpose

This course provides an overview of agriculture, and will help students to be educated about their food supply. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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.

Student will learn a basic understanding of agriculture with focuses on plants, animals, and natural resources. Students will also learn about our food system and the safety procedures in agriculture systems.

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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8100110	Orientation to Agriscience and Career Planning	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Demonstrate knowledge and skills in agriscience research.
- 02.0 Demonstrate knowledge and skills in the importance of agriculture.
- 03.0 Demonstrate knowledge and skills in agriscience laboratories and workshops.
- 04.0 Demonstrate knowledge and skills plant sciences.
- 05.0 Demonstrate knowledge and skills in animal sciences.
- 06.0 Demonstrate knowledge and skills in food science.
- 07.0 Demonstrate product knowledge and skills in agricultural processing and marketing.
- 08.0 Demonstrate knowledge and skills in natural resources.
- 09.0 Demonstrate leadership and communication skills.
- 10.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.

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

- 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: Orientation to Agriscience and Career Planning
Course Number: 8100110
Course Length: Semester

Course Description:

This course is designed to provide an understanding of the agricultural food system, environmental resources, and strategies used to produce and market agricultural products, and an exploration of research through the use of the scientific method. Throughout the semester/year student will take a closer look at agriculture and learn about the research and development of our food supply.

CTE Standards and Benchmarks	
01.0	Demonstrate knowledge and skills in agriscience research. The student will be able to:
01.01	Define agriscience.
01.02	Describe products of agriscience.
01.03	Define the scope of research in agriscience.
01.04	Discuss the impact of research on agriculture on consumer opinion.
01.05	Identify the steps of the scientific method.
01.06	Apply the scientific method to solve an agricultural problem.
02.0	Demonstrate knowledge and skills in the importance of agriculture. The student will be able to:
02.01	Describe the historical evolution of agriculture and its impact on civilization.
02.02	Discuss the scope of agriculture and its impact on daily life.
02.03	Identify specific areas of commodity production in the state, nation and world.
02.04	Describe the diversity of career opportunities in agriculture and its related fields through a Foundational SAE.
03.0	Demonstrate knowledge and skills in agriscience laboratories and workshops. The student will be able to:
03.01	Identify tools, machines and equipment used in agriculture.

03.02	Demonstrates proper laboratory/ workshop safety techniques.
03.03	Complete a project demonstrating the safe use of agricultural tools, machinery or equipment.
03.04	Discuss the impact of agricultural mechanization and engineering on society.
03.05	Conduct an experiment using proper laboratory techniques.
04.0	Demonstrate knowledge and skills in plant sciences. The student will be able to:
04.01	Distinguish between horticulture, forestry, and agronomic.
04.02	Propagate and grow an agricultural plant.
04.03	Identify supplies and services industries related to plant science.
04.04	Develop a specimen collection of local plant materials.
04.05	Demonstrate proper planting techniques.
04.06	Discuss organic agriculture and conventional agriculture as it relates to plants
05.0	Demonstrate knowledge and skills in animal sciences. The student will be able to:
05.01	Distinguish between food, service and companion animals.
05.02	Identify breeds of food, service and companion animals.
05.03	Identify supplies and services industries related to animal science.
05.04	Identify the needs of an animal and describe and describe proper care for that animal.
05.05	Identify consumer foods and products derived from animals.
05.06	Discuss organic and conventional agriculture as it relates to livestock production.
06.0	Demonstrate knowledge and skills in food science. The student will be able to:
06.01	Describe the proper handling techniques and storage of food products from farm to plate.
06.02	List and explain methods of food preservation.
06.03	Conduct a food taste test.
06.04	Develop a production and marketing plan for a food product.

06.05	Read and interpret a food label.
07.0	Demonstrate product knowledge and skills in agricultural processing and marketing. The student will be able to:
07.01	Define agricultural product processing and marketing.
07.02	Describe the processing and marketing of an agriculture product from farm to consumer.
07.03	Prepare, process, and market an agricultural product.
08.0	Demonstrate knowledge and skills in natural resources. The student will be able to:
08.01	Define and identify renewable and nonrenewable natural resources.
08.02	Describe agricultural management practices that conserve natural resources.
08.03	Describe effects of pollution on the environment.
08.04	Demonstrate how to recycle or conserve a natural resource.
09.0	Demonstrate leadership and communication skills. The student will be able to:
09.01	Describe the aims and purposes of the FFA organization.
09.02	Identify opportunities available to FFA members.
09.03	Identify characteristics of a good leader.
09.04	Participate in a cooperative leadership development activity or FFA Career Development Event.
09.05	Identify the importance of effective communication skills.
09.06	Demonstrate effective communication skills.
09.07	Describe the diversity of career opportunities in agriculture and its related fields through a Foundational SAE.
10.0	Integrate the use of science, mathematics, reading, geography, history, writing and communication in agriscience and technology. The student will be able to:
10.01	Apply basic mathematic operations to solve agricultural problems.
10.02	Correctly use measuring instruments and utilize measurements to solve agricultural problems.
10.03	Prepare written and oral materials using correct English grammar.
10.04	Identify the main idea in oral presentations and written materials.

10.05 Locates, organizes and interprets information from a variety of agricultural sources.

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

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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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.

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)

National FFA Organization (FFA) 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 Agriscience
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food and Natural Resources

Secondary – Middle School

Course Number	8100120
CIP Number	01019921EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

Purpose

This course is the first in a sequence of courses designed to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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.

Student will learn a basic understanding of agriculture with focuses on plants, animals, and natural resources. Students will also learn about our food system and the safety procedures in agriculture systems.

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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8100120	Introduction to Agriscience	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Identify the importance of agriscience.
- 02.0 Identify and practice agriculture safety skills.
- 03.0 Describe the importance of plants and animals in agriculture.
- 04.0 Use selected techniques to produce finished products from agricultural materials.
- 05.0 Describe leadership and communication skills.
- 06.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Agriscience
Course Number: 8100120
Course Length: Semester

Course Description:

This course is the first course in a sequence of middle school agriculture study. This course is designed to develop competencies in the areas of agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. Content of this course is focused on the introduction to the food system. During the semester/ year students will learn about plants, animals, food systems, and natural resources.

CTE Standards and Benchmarks	
01.0	Identify the importance of agriscience. The student will be able to:
01.01	Define agriscience and explain its diversity and scope.
01.02	Describe the importance of agriculture on a world, national, state, and community scale.
01.03	Describe the importance of agriculture in each individual's life.
01.04	Collect and discuss information on current agricultural events.
01.05	Trace the evolution of agriscience from its beginnings to current applications.
01.06	Identify the major agricultural production areas and the major commodities produced in the United States and Florida.
01.07	Describe the diversity of career opportunities in agriculture and its related fields through a Foundational SAE.
01.08	Describe the relationship between natural resources and agriculture.
01.09	Describe technology used in agricultural production, processing, and marketing of agricultural products.
02.0	Identify and practice agriculture safety skills. The student will be able to:
02.01	Identify procedures for safely using equipment.
02.02	Identify and use proper personal protective equipment (PPE).

02.03	Describe proper procedures for safety in agriculture classroom, laboratory, and land-laboratory.
03.0	Describe the importance of plants and animals in agriculture. The student will be able to:
03.01	Identify plants important to agriculture.
03.02	Identify animals important to agriculture.
03.03	Demonstrate the proper handling and ethical care of animals.
03.04	Describe animal rights and animal welfare.
03.05	Compare organic farming and conventional farming.
03.06	Identify conditions necessary for agricultural production.
03.07	Evaluate proper health and nutrition for livestock animals.
03.08	Compare companion animals and livestock animals
03.09	Identify the agricultural source of consumer products.
03.10	Trace the development of an agricultural product from the producer to the consumer.
04.0	Use selected techniques to produce finished products from agricultural materials. The student will be able to:
04.01	Complete a project safely using the appropriate agricultural tools, machinery, or equipment.
04.02	Prepare and process an agricultural product.
04.03	Propagate horticulture plants.
05.0	Describe leadership and communication skills. The student will be able to:
05.01	Describe the aims and purposes of the FFA organization.
05.02	Identify opportunities available to FFA members.
05.03	Define leadership and different leadership styles.
05.04	Define communication and identify methods of communication
05.05	Prepare and present and extemporaneous speech.
06.0	Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology. The student will be able to:

06.01	Apply basic mathematics operations to solve agricultural problems.
06.02	Correctly use measuring devices and utilize measurements to solve agricultural problems.
06.03	Prepare written and oral materials using correct English grammar.
06.04	Identify the main idea in oral presentations and written materials.
06.05	Locates, organizes, and interprets information from a variety of agricultural sources.

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)

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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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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)

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Accommodations

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Florida Department of Education
Curriculum Framework

Course Title: Exploration of Agriscience
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food and Natural Resources

Secondary – Middle School

Course Number	8100210
CIP Number	01019920EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

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 Agriculture, Food and Natural Resource career cluster. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8100210	Exploration of Agriscience	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Explain the evolution of agriculture.
- 02.0 Apply knowledge and skills in plant sciences.
- 03.0 Apply knowledge and skills in Forestry.
- 04.0 Apply knowledge and skills in animal sciences.
- 05.0 Demonstrate knowledge and skills in food science.
- 06.0 Apply knowledge and skills in biotechnology.
- 07.0 Apply knowledge and skills in processing and marketing.
- 08.0 Apply knowledge and skills in natural resources.
- 09.0 Apply leadership and communication skills.
- 10.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Agriscience
Course Number: 8100210
Course Length: Semester

Course Description:

This course is designed for students that have already covered the basic introduction to agriculture. This course is designed to provide instruction that explores the tasks, training, education and physical requirements of a broad range of agriscience and natural resources careers develop competencies in the areas of agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. During the semester/ year student will take a more in depth look into plants, animals, natural resources, and food science as they learn more about our food system.

CTE Standards and Benchmarks	
01.0	Explain the evolution of agriculture. The student will be able to:
01.01	Define agriculture.
01.02	Identify and research opportunities in agriculture and its related fields through a Foundational SAE.
01.03	Explain how commodities have diversified in Florida.
02.0	Apply knowledge and skills in plant sciences. The student will be able to:
02.01	Produce an agricultural plant.
02.02	Discuss the technology involved in the development of improved crops.
02.03	Identify agribusinesses that provide supplies and services to plant science industries in the state..
02.04	Identify the recommended uses and safety precautions from a pesticide label.
02.05	Discuss basic landscape design.
02.06	Identify pests, pathogens, parasites, and predators of horticultural and agronomic crops.
02.07	Describe the major components of soil.
02.08	Demonstrate how to read a fertilizer label

02.09	Describe various forms of fertilizer and proper application method.
03.0	Apply knowledge and skills in Forestry. The student will be able to:
03.01	Identify the major forest regions of the United States and Florida.
03.02	Describe the importance of forests and forest products.
03.03	Describe how trees grow, reproduce, and components of forest health.
03.04	Describe tools and techniques common to the forest industry.
03.05	Identify pests, pathogens, parasites, and predators of forests.
04.0	Apply knowledge and skills in animal sciences. The student will be able to:
04.01	Describe the differences between animal welfare and animal rights.
04.02	Discuss the technology involved in the development of improved animal products.
04.03	Identify important breeds of livestock.
04.04	Identify agribusinesses that provide supplies and services to animal science industries in the state.
04.05	Describe the uses of livestock and their products.
05.0	Demonstrate knowledge and skills in food science. The student will be able to:
05.01	Demonstrate the proper handling and storage of food products from farm to plate.
05.02	Describe and demonstrate at least one method of food preservation.
05.03	Conduct a food taste test.
05.04	Produce and market a food product.
05.05	Read, interpret, and develop a food label.
05.06	Describe the components of a balance diet.
05.07	Identify and compare USDA standards and grades for agricultural products.
06.0	Apply knowledge and skills in biotechnology. The student will be able to:
06.01	Define biotechnology.

06.02	Discuss current and future uses of genetic engineering.
06.03	Identify issues associated with biotechnology.
06.04	Explain the history of genetic engineering and biotechnology in agriculture.
07.0	Apply knowledge and skills in agricultural processing and marketing. The student will be able to:
07.01	Identify processing and packaging techniques used in agriculture.
07.02	Discuss the difference in marketing strategies between perishable and nonperishable commodities.
07.03	Describe how processing, packaging, and marketing affects the price of an item.
07.04	Recognize misleading advertising.
07.05	Describe how competition benefits the consumer.
08.0	Apply knowledge and skills in natural resources. The student will be able to:
08.01	Identify methods or practices of the conservation natural resources.
08.02	Demonstrate a method or practice of conservation.
08.03	Identify major ecosystems in Florida.
08.04	Discuss the importance of the ecosystems to agriculture, society and each other.
08.05	Define Best Management Practices (BMPs) and explain their benefits to agriculture.
09.0	Apply leadership and communication skills. The student will be able to:
09.01	Discuss the establishment and history of the FFA organization.
09.02	Identify the characteristics and responsibilities of organizational leaders.
09.03	Identify parliamentary procedure skills during a business meeting.
09.04	Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.
09.05	Identify communication skills necessary for effective leadership.
09.06	Identify state and community organizations associated with agricultural promotion.
10.0	Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology. The student will be able to:

10.01	Apply basic mathematics operations to solve agricultural problems.
10.02	Correctly use measuring devices and utilize measurements to solve agricultural problems.
10.03	Apply the scientific method to solve an agricultural problem.
10.04	Prepare written and/or oral materials using correct English grammar.
10.05	Identify the main idea in oral presentations and/or written materials.
10.06	Locate, organize, and interpret information from a variety of agricultural sources.

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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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)

National FFA Organization (FFA) 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: Orientation to Agriscience
Course Type: Orientation/Exploratory
Career Cluster: Agriculture, Food and Natural Resources

Secondary – Middle School

Course Number	8100310
CIP Number	01019910OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FFA

Purpose

This course provides an overview of agriculture, and will help students to be educated about their food supply. The content includes but is not limited to agricultural literacy, importance of agriculture, the role of science, math, reading, writing, geography, history, and technology in agriculture, plants and animals, and sources of consumer goods from agriculture. 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.

Student will learn a basic understanding of agriculture with focuses on plants, animals, and natural resources. Students will also learn about our food system and the safety procedures in agriculture systems.

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. Planned and Supervised Agricultural Experiences (SAE) must be provided through one or more of the following: (1) foundational career exploration, (2) directed laboratory experience, (3) project ownership/entrepreneurship, (4) cooperative education/internship, (5) School Based Enterprise, or (6) Service Learning.

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
8100310	Orientation to Agriscience	AGRICULTUR 1 @2 EXP AG @4	Semester

Standards

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

- 01.0 Demonstrate knowledge and skills in agriscience research.
- 02.0 Demonstrate knowledge and skills in the importance of agriculture.
- 03.0 Demonstrate knowledge and skills in agriscience laboratories and workshops.
- 04.0 Demonstrate knowledge and skills in plant sciences.
- 05.0 Demonstrate knowledge and skills in animal sciences.
- 06.0 Demonstrate knowledge and skills in food science.
- 07.0 Demonstrate product knowledge and skills in agricultural processing and marketing.
- 08.0 Demonstrate knowledge and skills in natural resources.
- 09.0 Demonstrate leadership and communication skills.
- 10.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Orientation to Agriscience
Course Number: 8100310
Course Length: Semester

Course Description:

This course is designed to provide an understanding of the agricultural food system, environmental resources, and strategies used to produce and market agricultural products, and an exploration of research through the use of the scientific method. Throughout the semester/year student will take a closer look at agriculture and learn about the research and development of our food supply.

CTE Standards and Benchmarks	
01.0	Demonstrate knowledge and skills in agriscience research. The student will be able to:
01.01	Define agriscience.
01.02	Describe products of agriscience.
01.03	Define the scope of research in agriscience.
01.04	Discuss the impact of research on agriculture on consumer opinion.
01.05	Identify the steps of the scientific method.
01.06	Apply the scientific method to solve an agricultural problem.
02.0	Demonstrate knowledge and skills in the importance of agriculture. The student will be able to:
02.01	Describe the historical evolution of agriculture and its impact on civilization.
02.02	Discuss the scope of agriculture and its impact on daily life.
02.03	Identify specific areas of commodity production in the state, nation and world.
02.04	Describe the diversity of career opportunities in agriculture and its related fields through a Foundational SAE.
03.0	Demonstrate knowledge and skills in agriscience laboratories and workshops. The student will be able to:
03.01	Identify tools, machines and equipment used in agriculture.

03.02	Demonstrates proper laboratory/ workshop safety techniques.
03.03	Complete a project demonstrating the safe use of agricultural tools, machinery or equipment.
03.04	Discuss the impact of agricultural mechanization and engineering on society.
03.05	Conduct an experiment using proper laboratory techniques.
04.0	Demonstrate knowledge and skills in plant sciences. The student will be able to:
04.01	Distinguish between horticulture, forestry, and agronomy.
04.02	Propagate and grow an agricultural plant.
04.03	Identify supplies and services industries related to plant science.
04.04	Develop a specimen collection of local plant materials.
04.05	Demonstrate proper planting techniques.
04.06	Discuss organic agriculture and conventional agriculture as it relates to plants.
05.0	Demonstrate knowledge and skills in animal sciences. The student will be able to:
05.01	Distinguish between food, service and companion animals.
05.02	Identify breeds of food, service and companion animals.
05.03	Identify supplies and services industries related to animal science.
05.04	Identify the needs of an animal and describe and describe proper care for that animal.
05.05	Identify consumer foods and products derived from animals.
05.06	Discuss organic and conventional agriculture as it relates to livestock production.
06.0	Demonstrate knowledge and skills in food science. The student will be able to:
06.01	Describe the proper handling techniques and storage of food products from farm to plate.
06.02	List and explain methods of food preservation.
06.03	Conduct a food taste test.
06.04	Develop a production and marketing plan for a food product.

06.05	Read and interpret a food label.
07.0	Demonstrate product knowledge and skills in agricultural processing and marketing. The student will be able to:
07.01	Define agricultural product processing and marketing.
07.02	Describe the processing and marketing of an agriculture product from farm to consumer.
07.03	Prepare, process, and market an agricultural product.
08.0	Demonstrate knowledge and skills in natural resources. The student will be able to:
08.01	Define and identify renewable and nonrenewable natural resources.
08.02	Describe agricultural management practices that conserve natural resources.
08.03	Describe effects of pollution on the environment.
08.04	Demonstrate how to recycle or conserve a natural resource.
09.0	Demonstrate leadership and communication skills. The student will be able to:
09.01	Describe the aims and purposes of the FFA organization.
09.02	Identify opportunities available to FFA members.
09.03	Identify characteristics of a good leader.
09.04	Participate in a cooperative leadership development activity or FFA Career Development Event.
09.05	Identify the importance of effective communication skills.
09.06	Demonstrate effective communication skills.
10.0	Integrate the use of science, mathematics, reading, geography, history, writing and communication in agriscience and technology. The student will be able to:
10.01	Apply basic mathematic operations to solve agricultural problems.
10.02	Correctly use measuring instruments and utilize measurements to solve agricultural problems.
10.03	Prepare written and oral materials using correct English grammar.
10.04	Identify the main idea in oral presentations and written materials.
10.05	Locate, organize, and interpret information from a variety of agricultural sources.

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.

Extended Student Supervision

Because of the production and marketing cycle of the agriculture industry, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

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)

National FFA Organization (FFA) 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 Architecture & Construction
Course Type: Orientation/Exploratory
Career Cluster: Architecture & Construction

Secondary – Middle School

Course Number	8109350
CIP Number	148109350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Architecture & Construction career cluster. The content includes but is not limited to careers in designing, planning, managing, building and maintaining the built environment. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

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
8109350	Introduction to Architecture & Construction	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 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 Demonstrate an understanding of the Design/ Pre-Construction career pathway.
- 02.0 Demonstrate an understanding of the Construction career pathway.
- 03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway.
- 04.0 Apply leadership and communication skills.
- 05.0 Describe how information technology is used in the Architecture and Construction career cluster.
- 06.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Architecture & Construction
Course Number: 8109350
Course Length: Semester

Course Description:

Beginning with a broad overview of the Architecture & Construction career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Architecture & Construction 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 Design/ Pre-Construction career pathway--The student will be able to:
01.01	Define and use proper terminology associated with the Design/ Pre-Construction career pathway.
01.02	Describe some of the careers available in the Design/ Pre-Construction career pathway.
01.03	Identify common characteristics of the careers in the Design/ Pre-Construction career pathway.
01.04	Research the history of the Design/ Pre-Construction 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 Design/Pre-Construction career pathway.
01.06	Describe technologies associated in careers within the Design/ Pre-Construction career pathway.
02.0	Demonstrate an understanding of the Construction career pathway--The student will be able to:
02.01	Define and use proper terminology associated with the Construction career pathway.
02.02	Describe some of the careers available in the Construction career pathway.
02.03	Identify common characteristics of the careers in the Construction career pathway.
02.04	Research the history of the Construction career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Construction career pathway.
02.06	Describe technologies associated in careers within the Construction career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway--The student will be able to:

03.01 Define and use proper terminology associated with the Maintenance/ Operation career pathway.

03.02 Describe some of the careers available in the Maintenance/ Operation career pathway.

03.03 Identify common characteristics of the careers in the Maintenance/ Operation career pathway.

03.04 Research the history of the Maintenance/ Operation 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/ Operation career pathway.

03.06 Describe technologies associated in careers within the Maintenance/ Operation career pathway.

04.0 Apply leadership and communication skills--The student will be able to:

04.01 Discuss the establishment and history of the SkillsUSA organization.

04.02 Identify the characteristics and responsibilities of organizational leaders.

04.03 Demonstrate parliamentary procedure skills during a meeting.

04.04 Participate in a committee which has an assigned task and report to the class.

04.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.

04.06 Use a computer to assist in the completion of a project related to the Architecture & Construction career cluster.

05.0 Describe how information technology is used in the Architecture and Construction career cluster. – The student will be able to:

05.01 Identify information technology (IT) careers in the Architecture and Construction career cluster, including the responsibilities, tasks and skills they require.

05.02 Relate information technology project management concepts and terms to careers in the Architecture and Construction career cluster.

05.03 Manage information technology components typically used in professions of the Architecture and Construction career cluster.

05.04 Identify security-related ethical and legal IT issues faced by professionals in the Architecture and Construction career cluster.

06.0 Use information technology tools. – The student will be able to:

06.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Architecture and Construction career cluster.

06.02 Use e-mail clients to send simple messages and files to other Internet users.

CTE Standards and Benchmarks

06.03 Demonstrate ways to communicate effectively using Internet technology.

06.04 Use different types of web search engines effectively to locate information relevant to the Architecture and Construction 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 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 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 Architecture & Construction and Career Planning
Course Type: Orientation/Exploratory
Career Cluster: Architecture & Construction

Secondary – Middle School

Course Number	8109360
CIP Number	148109360M
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 Architecture & Construction career cluster. The content includes but is not limited to careers in designing, planning, managing, building and maintaining the built environment. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

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
8109360	Introduction to Architecture & Construction and Career Planning	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 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 Demonstrate an understanding of the Design/ Pre-Construction career pathway.
- 02.0 Demonstrate an understanding of the Construction career pathway.
- 03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway.
- 04.0 Apply leadership and communication skills.
- 05.0 Describe how information technology is used in the Architecture and Construction career cluster.
- 06.0 Use information technology tools.

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 Architecture & Construction and Career Planning
Course Number: 8109360
Course Length: Semester

Course Description:

Beginning with a broad overview of the Architecture & Construction career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Architecture & Construction 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 Design/ Pre-Construction career pathway--The student will be able to:
01.01	Define and use proper terminology associated with the Design/ Pre-Construction career pathway.
01.02	Describe some of the careers available in the Design/ Pre-Construction career pathway.
01.03	Identify common characteristics of the careers in the Design/ Pre-Construction career pathway.
01.04	Research the history of the Design/ Pre-Construction 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 Design/Pre-Construction career pathway.
01.06	Describe technologies associated in careers within the Design/ Pre-Construction career pathway.
02.0	Demonstrate an understanding of the Construction career pathway--The student will be able to:
02.01	Define and use proper terminology associated with the Construction career pathway.
02.02	Describe some of the careers available in the Construction career pathway.
02.03	Identify common characteristics of the careers in the Construction career pathway.
02.04	Research the history of the Construction career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Construction career pathway.
02.06	Describe technologies associated in careers within the Construction career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway--The student will be able to:

03.01 Define and use proper terminology associated with the Maintenance/ Operation career pathway.

03.02 Describe some of the careers available in the Maintenance/ Operation career pathway.

03.03 Identify common characteristics of the careers in the Maintenance/ Operation career pathway.

03.04 Research the history of the Maintenance/ Operation 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/ Operation career pathway.

03.06 Describe technologies associated in careers within the Maintenance/ Operation career pathway.

04.0 Apply leadership and communication skills--The student will be able to:

04.01 Discuss the establishment and history of the SkillsUSA organization.

04.02 Identify the characteristics and responsibilities of organizational leaders.

04.03 Demonstrate parliamentary procedure skills during a meeting.

04.04 Participate in a committee which has an assigned task and report to the class.

04.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.

04.06 Use a computer to assist in the completion of a project related to the Architecture & Construction career cluster.

05.0 Describe how information technology is used in the Architecture and Construction career cluster. – The student will be able to:

05.01 Identify information technology (IT) careers in the Architecture and Construction career cluster, including the responsibilities, tasks and skills they require.

05.02 Relate information technology project management concepts and terms to careers in the Architecture and Construction career cluster.

05.03 Manage information technology components typically used in professions of the Architecture and Construction career cluster.

05.04 Identify security-related ethical and legal IT issues faced by professionals in the Architecture and Construction career cluster.

06.0 Use information technology tools. – The student will be able to:

06.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Architecture and Construction career cluster.

06.02 Use e-mail clients to send simple messages and files to other Internet users.

CTE Standards and Benchmarks

06.03 Demonstrate ways to communicate effectively using Internet technology.

06.04 Use different types of web search engines effectively to locate information relevant to the Architecture and Construction 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:

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 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 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 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 Architecture and Construction
Program Type: Orientation/Exploratory
Career Cluster: Architecture and Construction

Secondary – Middle School

Program Number	8130300
CIP Number	148130300M
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 Architecture and Construction career cluster. The content includes but is not limited to investigating careers, reading and drawing plans and constructing models. 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
8130300	Fundamentals of Architecture and Construction	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 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 Investigate careers and entry requirements within the design/ preconstruction pathway.
- 02.0 Use safe work practices.
- 03.0 Read and interpret basic construction documents and specifications.
- 04.0 Draw basic plans by hand.
- 05.0 Read civil, architectural and mechanical, electrical and plumbing (MEP) drawings.
- 06.0 Investigate careers and entry requirements within the construction pathway.
- 07.0 Plan the construction of a model or architectural detail from a set of plans.
- 08.0 Construct a model or architectural detail from plans and specifications.
- 09.0 Investigate careers and entry requirements within the operation and maintenance pathway.
- 10.0 Analyze the impact of design decisions on building operations and maintenance.
- 11.0 Explain sustainability issues related to the design, construction and maintenance of the built environment.
- 12.0 Identify components of network systems.
- 13.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Architecture and Construction
Course Number: 8130300
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 Architecture and Construction career cluster. The content includes but is not limited to investigating careers, reading and drawing plans and constructing models.

CTE Standards and Benchmarks	
01.0	Investigate careers and entry requirements within the design/ preconstruction pathway--The student will be able to:
01.01	Describe careers in design/preconstruction (e.g. architects, interior designers, drafters, engineers - civil, MEP and structural, urban and regional planners, etc.)
01.02	Explain educational and training pathways necessary for these careers.
01.03	Research and present information on a design / preconstruction career including roles and responsibilities, opportunities for employment and the requirements for education and training.
02.0	Use safe work practices--The student will be able to:
02.01	Comply with all applicable basic Occupational Safety and Health Administration (OSHA) rules and regulations.
02.02	Use appropriate safety equipment.
02.03	Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments and work ethics.
03.0	Read and interpret basic construction documents and specifications--The student will be able to:
03.01	Name various types of drawings used in construction documents and explain their purpose.
03.02	Locate sections, elevations and details indicated on the floor plan within the set of construction documents.
03.03	Select and use appropriate architectural scales for various drawings.
03.04	Identify various symbols and terminology used in construction documents.
03.05	Read and interpret specifications.

CTE Standards and Benchmarks

03.06	Explain the scope and purpose of building codes and regulations.
04.0	Draw basic plans by hand--The student will be able to:
04.01	Draw plans and corresponding elevations, sections and details.
04.02	Apply appropriate architectural scales to drawings.
04.03	Apply basic building codes in drawings.
04.04	Create door, window and finish schedules.
05.0	Read civil, architectural and mechanical, electrical and plumbing (MEP) drawings--The student will be able to:
05.01	Locate civil plans within a construction documents set, identify defining features and state the importance of these plans.
05.02	Locate architectural plans within a construction documents set, identify defining features and state the importance of these plans.
05.03	Locate mechanical plans within a construction documents set, identify defining features and state the importance of these plans.
05.04	Locate electrical plans within a construction documents set, identify defining features and state the importance of these plans.
05.05	Locate plumbing plans within a construction documents set, identify defining features and state the importance of these plans.
05.06	Name types of careers associated with the development of civil, architectural and mechanical, electrical and plumbing (MEP) drawings.
06.0	Investigate careers and entry requirements within the construction pathway--The student will be able to:
06.01	Describe careers in design/preconstruction (e.g. managers - project managers, project engineers, estimators, superintendents; sub-contractors and tradespersons - carpenters, masons, electricians, plumbers, HVAC technicians; etc.)
06.02	Explain educational and training pathways available for these careers.
06.03	Research and present information on a construction career including roles and responsibilities, opportunities for employment and the requirements for education and training.
07.0	Plan the construction of a model or architectural detail from a set of plans--The student will be able to:
07.01	Calculate material quantities and costs.
07.02	Determine the critical path as a progression of construction activities.
07.03	Draw a bar chart depicting construction schedule.
08.0	Construct a model or architectural detail from plans and specifications--The student will be able to:

CTE Standards and Benchmarks

08.01 Use appropriate tools while demonstrating safe work practices.

08.02 Apply proper cutting and fastening techniques for basic model materials.

09.0 Investigate careers and entry requirements within the operation and maintenance pathway--The student will be able to:

09.01 Describe careers in operation and maintenance (energy auditors; building inspectors; system installers - HVAC, telecommunications, security/fire, solar, etc.; maintenance technicians; hazardous materials removers; environmental engineers).

09.02 Explain educational and training pathways necessary for these careers.

09.03 Research and present information on an operation and maintenance career including roles and responsibilities, opportunities for employment and the requirements for education and training.

10.0 Analyze the impact of design decisions on building operations and maintenance--The student will be able to:

10.01 Compare life-cycle costs for various building materials and/ or systems within the built environment.

10.02 Explain maintenance procedures for specific products or materials.

11.0 Explain sustainability issues related to the design, construction and maintenance of the built environment--The student will be able to:

11.01 Describe the impact of the construction industry on the natural environment.

11.02 Identify sustainable alternatives to conventional practices.

11.03 Identify specific practices that can lessen adverse impacts on the environment.

12.0 Identify components of network systems related to the Architecture and Construction industry--The student will be able to:

12.01 Identify structure to access internet, including hardware and software components.

12.02 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.

12.03 Recognize essential database concepts.

12.04 Define and use additional networking and internet services.

13.0 Describe and use communication features of information technology--The student will be able to:

13.01 Define important internet communications protocols and their roles in delivering basic Internet services.

13.02 Identify basic principles of the Domain Name System (DNS).

13.03 Identify security issues related to Internet clients.

CTE Standards and Benchmarks

13.04 Identify and use principles of Personal Information Management (PIM), including common applications.

13.05 Efficiently transmit text and binary files using popular Internet services.

13.06 Conduct a webcast and related services.

13.07 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.

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Career Planning

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Career and Technical Student Organization (CTSO)

SkillsUSA 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: Business Keyboarding
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School	
Course Number	8200110
CIP Number	05079999OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in introductory keyboarding, introductory word processing, introductory electronic presentation, introductory computer hardware, introductory Internet, and skills for business applications.

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
8200110	Business Keyboarding	BUS ED 1 @2 TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Identify and understand computer hardware.
- 02.0 Identify information technology tools and their proper uses.
- 03.0 Develop and apply keyboarding skills utilizing current technology.
- 04.0 Develop and apply word processing skills utilizing current technology.
- 05.0 Develop and apply electronic presentation skills utilizing current technology.
- 06.0 Develop and utilize business-related skills.
- 07.0 Perform activities using the worldwide web.
- 08.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 09.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Business Keyboarding
Course Number: 8200110
Course Length: Semester

Course Description:

This course is designed to provide instruction in introductory keyboarding, introductory word processing, introductory electronic presentation, introductory computer hardware, introductory Internet, and business applications skills. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

Activities including field trips and the use of guest presenters from the business community are appropriate for this course. These frameworks and student performance standards are the MINIMUM required for this course. As time allows, teachers are encouraged to add competencies in additional software and technologies.

CTE Standards and Benchmarks	
01.0	Identify and understand computer hardware. The student will be able to:
01.01	Define and identify input, output, and storage devices and their functions.
01.02	Define and identify memory in a computer.
02.0	Identify information technology tools and their proper uses. The student will be able to:
02.01	Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.
03.0	Develop and apply keyboarding skills utilizing current technology. The student will be able to:
03.01	Demonstrate proper alphabet keyboarding techniques using correct ergonomic habits.
03.02	Demonstrate safety and respect for equipment and materials in lab.
03.03	Demonstrate proper techniques for keyboarding while keeping fingers on home row keys.
04.0	Develop and apply word processing skills utilizing current technology. The student will be able to:
04.01	Start and exit word processing software.
04.02	Identify the parts of a word processing screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

CTE Standards and Benchmarks

04.03 Demonstrate ability to use and recognize the word processing window, including menus, toolbars, dialog boxes, tabs and ribbons.

04.04 Create and edit a new document.

04.05 Understand different views of document and using the zoom function.

04.06 Identify methods of moving the insertion point, i.e., arrow keys, backspace and delete.

04.07 Select and edit text.

04.08 Move text in a document using the copying/cutting/pasting and drag/drop text commands.

04.09 Format text by changing the font, size, color.

04.10 Align text horizontally and vertically.

04.11 Utilize the Undo and Redo commands.

04.12 Utilize the Show/Hide command.

04.13 Use basic proofreading skills including proofreader's marks.

04.14 Use spell/grammar check/thesaurus programs properly.

04.15 Understand the difference between Save and Save As.

04.16 Save, open and replace files.

04.17 Utilize Print Preview and demonstrate printing capabilities.

04.18 Demonstrate efficient use of the Help program.

05.0 Develop and apply electronic presentation skills utilizing current technology. The student will be able to:

05.01 Start and exit presentation software.

05.02 Identify the parts of a presentation screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

05.03 Create a new presentation document.

05.04 Select design layout, background, a template and color scheme.

05.05 Edit text.

05.06 Format text and graphics.

CTE Standards and Benchmarks

05.07 Select order of frames.

05.08 Demonstrate ability to spell check, save and print presentation.

06.0 Develop and utilize business-related skills. The student will be able to:

06.01 Understand the importance of positive attitude in obtaining and maintaining a job.

06.02 Identify good grooming/dress habits for the workplace.

06.03 Develop problem solving skills.

06.04 Identify the benefits of teamwork.

06.05 Identify the importance of impromptu speaking ability in the workplace.

06.06 Identify the importance of prepared speaking ability in the workplace.

07.0 Perform activities using the world wide web. The student will be able to:

07.01 Explore the history of the Internet.

07.02 Introduce Internet vocabulary such as hyperlink, WWW, URL, and web browser.

07.03 Understand basic principles of the Domain Name System (DNS).

07.04 Perform basic Internet searches.

07.05 Identify and use various web browsers.

07.06 Identify and use various search engines.

07.07 Evaluate websites.

07.08 Understand Favorites/Bookmarks.

07.09 Understand and demonstrate Internet safety.

07.10 Discuss Internet privacy, ethics, network etiquette and copyright laws.

08.0 Describe how information technology is used in the Business, Management and Administration career cluster. The student will be able to:

08.01 Identify through internet research information technology (IT) careers in the Business, Management and Administration career cluster, including the responsibilities, tasks and skills they require.

CTE Standards and Benchmarks

08.02 Identify security-related ethical and legal IT issues faced by professionals in the Business, Management and Administration career cluster.

09.0 Describe and use communication features of information technology. The student will be able to:

09.01 Identify and/or use various ways to communicate effectively using Internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

09.02 Identify security and privacy issues related to the Internet, including passwords and information theft.

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, including access to computers and appropriate software.

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Special Notes

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Career and Technical Student Organization (CTSO)

Future Business Leaders of America (FBLA) and Business Professionals of America (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.

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Florida Department of Education
Curriculum Framework

Course Title: Business Leadership Skills
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200120
CIP Number	05079999LS
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to accounting, administrative support, digital publishing, entrepreneurship, international business, management and software applications.

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
8200120	Business Leadership Skills	BUS ED 1 @2 TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Explore emerging workplace trends and issues.
- 02.0 Develop an awareness of business organizational structures.
- 03.0 Assess personal strengths as they relate to business career exploration.
- 04.0 Demonstrate business leadership skills.
- 05.0 Apply mathematical strategies to business applications.
- 06.0 Identify information technology tools and their purposes.
- 07.0 Apply communication skills.
- 08.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 09.0 Describe and use communication features of information technology.
- 10.0 Demonstrate knowledge of information systems.

**Florida Department of Education
Student Performance Standards**

Course Title: Business Leadership Skills
Course Number: 8200120
Course Length: Semester

Course Description:

The purpose of this course is to provide a comprehensive exploration of the core business themes. Students are exposed to concepts that may be further studied in individual programs in grades 9-12. Students will rotate through a content which includes accounting, administrative support, digital publishing, entrepreneurship, international business, management and software applications.

CTE Standards and Benchmarks	
01.0	Explore emerging workplace trends and issues. The student will be able to:
01.01	Describe current trends and issues that impact global and local business environments.
02.0	Develop an awareness of business organizational structures. The student will be able to:
02.01	Explore organizational structures in today's business environments.
02.02	Assess personal performance and identify strategies for improvement.
02.03	Develop an awareness of the impact of the economy as it relates to the marketplace.
03.0	Assess personal strengths as they relate to business career exploration. The student will be able to:
03.01	Survey and assess personal aptitudes and interests related to careers.
04.0	Demonstrate business leadership skills. The student will be able to:
04.01	Demonstrate leadership skills needed to develop a positive work environment.
04.02	Apply appropriate strategies to manage conflict in work situations.

CTE Standards and Benchmarks

05.0 Apply mathematical strategies to business applications. The student will be able to:

05.01 Select and implement appropriate mathematical tools to solve business financial problems.

06.0 Identify information technology tools and their purposes. The student will be able to:

06.01 Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.

06.02 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Business, Management and Administration career cluster.

06.03 Use different types of web search engines effectively to locate information relevant to the Business, Management and Administration career cluster.

07.0 Apply communication skills. The student will be able to:

07.01 Select and use appropriate modes of communication, including the Internet, for specific workplace situations.

07.02 Use presentation software to enhance personal and professional communications.

07.03 Produce electronic publications using digital publishing software.

08.0 Describe how information technology is used in the Business, Management and Administration career cluster. The student will be able to:

08.01 Identify through Internet research information technology (IT) careers in the Business, Management and Administration career cluster, including the responsibilities, tasks and skills they require.

08.02 Identify security-related ethical and legal IT issues faced by professionals in the Business, Management and Administration career cluster.

09.0 Describe and use communication features of information technology. The student will be able to:

09.01 Identify basic principles of the Domain Name System (DNS).

09.02 Identify security and privacy issues related to the Internet, including passwords and information theft.

09.03 Identify and/or use various ways to communicate effectively using internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

CTE Standards and Benchmarks

09.04 Represent technical issues to a non-technical audience.

10.0 Demonstrate knowledge of information systems. The student will be able to:

10.01 Use current and emerging computer technology and software to perform personal and business related tasks.

10.02 Apply the use of information management tools to develop and coordinate the distribution of work.

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, including access to computers and appropriate software.

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English Language Development (ELD) Standards Special Notes:

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

Career and Technical Student Organization (CTSO)

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Accommodations

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

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

Florida Department of Education
Curriculum Framework

Course Title: Business Keyboarding and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200130
CIP Number	0507999905
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in introductory keyboarding, introductory word processing, introductory electronic presentation, introductory computer hardware, introductory Internet, and skills for business applications.

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
8200130	Business Keyboarding and Career Planning	BUS ED 1 @2 TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Identify and understand computer hardware.
- 02.0 Identify information technology tools and their proper uses.
- 03.0 Develop and apply keyboarding skills utilizing current technology.
- 04.0 Develop and apply word processing skills utilizing current technology.
- 05.0 Develop and apply electronic presentation skills utilizing current technology.
- 06.0 Develop and utilize business-related skills.
- 07.0 Perform activities using the worldwide web.
- 08.0 Describe how information technology is used in the Business, Management and Administration career cluster.
- 09.0 Describe and use communication features of information technology.

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: Business Keyboarding and Career Planning
Course Number: 8200130
Course Length: Semester

Course Description:

This course is designed to provide instruction in introductory keyboarding, introductory word processing, introductory electronic presentation, introductory computer hardware, introductory Internet, and soft skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

Activities including field trips and the use of guest presenters from the business community are appropriate for this course. These frameworks and student performance standards are the MINIMUM required for this course. As time allows, teachers are encouraged to add competencies in additional software and technologies.

CTE Standards and Benchmarks	
01.0	Identify and understand computer hardware. The student will be able to:
01.01	Define and identify input, output, and storage devices and their functions.
01.02	Define and identify memory in a computer.
02.0	Identify information technology tools and their proper uses. The student will be able to:
02.01	Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.
03.0	Develop and apply keyboarding skills utilizing current technology. The student will be able to:
03.01	Demonstrate proper alphabet keyboarding techniques using correct ergonomic habits.
03.02	Demonstrate safety and respect for equipment and materials in lab.
03.03	Demonstrate proper techniques for keyboarding while keeping fingers on home row keys.

CTE Standards and Benchmarks

04.0 Develop and apply word processing skills utilizing current technology. The student will be able to:

04.01 Start and exit word processing software.

04.02 Identify the parts of a word processing screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

04.03 Demonstrate ability to use and recognize the word processing window, including menus, toolbars, dialog boxes, tabs and ribbons.

04.04 Create and edit a new document.

04.05 Understand different views of document and using the zoom function.

04.06 Identify methods of moving the insertion point, i.e., arrow keys, backspace and delete.

04.07 Select and edit text.

04.08 Move text in a document using the copying/cutting/pasting and drag/drop text commands.

04.09 Format text by changing the font, size, color.

04.10 Align text horizontally and vertically.

04.11 Utilize the Undo and Redo commands.

04.12 Utilize the Show/Hide command.

04.13 Use basic proofreading skills including proofreader's marks.

04.14 Use spell/grammar check/thesaurus programs properly.

04.15 Understand the difference between Save and Save As.

04.16 Save, open and replace files.

CTE Standards and Benchmarks

04.17 Utilize Print Preview and demonstrate printing capabilities.

04.18 Demonstrate efficient use of the Help program.

05.0 Develop and apply electronic presentation skills utilizing current technology. The student will be able to:

05.01 Start and exit presentation software.

05.02 Identify the parts of a presentation screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

05.03 Create a new presentation document.

05.04 Select design layout, background, a template and color scheme.

05.05 Edit text.

05.06 Format text and graphics.

05.07 Select order of frames.

05.08 Demonstrate ability to spell check, save and print presentation.

06.0 Develop and utilize business-related skills. The student will be able to:

06.01 Understand the importance of positive attitude in obtaining and maintaining a job.

06.02 Identify good grooming/dress habits for the workplace.

06.03 Develop problem solving skills.

06.04 Identify the benefits of teamwork.

06.05 Identify the importance of impromptu speaking ability in the workplace.

CTE Standards and Benchmarks

06.06 Identify the importance of prepared speaking ability in the workplace.

07.0 Perform activities using the world wide web. The student will be able to:

07.01 Explore the history of the Internet.

07.02 Introduce Internet vocabulary such as hyperlink, WWW, URL, and web browser.

07.03 Understand basic principles of the Domain Name System (DNS).

07.04 Perform basic Internet searches.

07.05 Identify and use various web browsers.

07.06 Identify and use various search engines.

07.07 Evaluate websites.

07.08 Understand Favorites/Bookmarks.

07.09 Understand and demonstrate Internet safety.

07.10 Discuss Internet privacy, ethics, network etiquette and copyright laws.

08.0 Describe how information technology is used in the Business, Management and Administration career cluster. The student will be able to:

08.01 Identify through internet research information technology (IT) careers in the Business, Management and Administration career cluster, including the responsibilities, tasks and skills they require.

08.02 Identify security-related ethical and legal IT issues faced by professionals in the Business, Management and Administration career cluster.

09.0 Describe and use communication features of information technology. The student will be able to:

09.01 Identify and/or use various ways to communicate effectively using Internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

CTE Standards and Benchmarks

09.02 Identify security and privacy issues related to the Internet, including passwords and information theft.

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, including access to computers and appropriate software.

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)

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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: Computer Applications in Business 2
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200210
CIP Number	05079999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in advanced keyboarding, advanced word processing, advanced hardware, advanced Internet, intermediate spreadsheet, introductory digital design, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

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
8200210	Computer Applications in Business 2	BUS ED 1 @2 COMPU SCI 6 ENG&TEC ED1@2 TC COOP ED @7 TEC ED 1@2 VOE @7	Semester

Standards

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

- 01.0 Develop and apply keyboarding skills utilizing current technology.
- 02.0 Develop and apply word processing skills utilizing current technology.
- 03.0 Develop and apply spreadsheet skills utilizing current technology.
- 04.0 Develop and apply digital design skills utilizing current technology.
- 05.0 Develop and utilize business-related skills.
- 06.0 Perform activities using the worldwide web.
- 07.0 Identify components of network systems.
- 08.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 09.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Computer Applications in Business 2
Course Number: 8200210
Course Length: Semester

Course Description:

This course is designed to provide instruction in advanced keyboarding, advanced word processing, advanced hardware, advanced Internet, intermediate spreadsheet, introductory digital design, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

CTE Standards and Benchmarks	
01.0	Develop keyboarding skills utilizing current technology. The student will be able to:
01.01	Demonstrate speed building using techniques for numeric and symbol keyboarding.
01.02	Demonstrate proper hand positioning for numeric keypad entries and symbol keyboarding.
02.0	Develop and apply word processing skills utilizing current technology. The student will be able to:
02.01	Create and format memos.
02.02	Create and format business letters using the block and/or modified block style.
02.03	Create and format one-page academic and/or business reports using Modern Language Association (MLA) style.
02.04	Use basic proofreading skills including using proofreader’s marks.
02.05	Identify how to address and print envelopes.
02.06	Insert a hyperlink into a document.
02.07	Understand and use Read-Only documents.
02.08	Work with multi-page documents: insert page breaks.
02.09	Format columns within a document.
02.10	Work with document templates.

CTE Standards and Benchmarks

02.11 Open and work with multiple documents.

03.0 Develop and apply spreadsheet skills utilizing current technology. The student will be able to:

03.01 Insert and delete rows and columns.

03.02 Clear and delete data.

03.03 Copy and move data.

03.04 Fill the same data in adjacent cells.

03.05 Fill data series in adjacent cells

03.06 Hide and unhide columns and rows.

03.07 Freeze and unfreeze columns and rows.

03.08 Sort data.

03.09 Print the worksheet, with and without grids.

03.10 Create a chart.

04.0 Develop and apply digital design skills utilizing current technology. The student will be able to:

04.01 Demonstrate ability to launch digital design software.

04.02 Create a new document from a template (e.g., newsletters, brochures, greeting cards, letterhead, or flyers).

04.03 Identify menus and toolbars of digital design software.

04.04 Apply design layout and color scheme.

04.05 Apply styles and borders.

04.06 Insert a text box, word art and graphics.

04.07 Apply formatting to a text box, word art and graphics.

04.08 Edit text and layouts.

04.09 Demonstrate the ability to spell check, save, and print a document.

CTE Standards and Benchmarks

05.0 Develop and utilize business-related skills. The student will be able to:

05.01 Determine why a positive attitude is necessary for success in the workplace.

05.02 Compare grooming/dress standards in various workplace environments.

05.03 Use problem solving skills to identify computer problems.

05.04 Apply teamwork in the classroom.

05.05 Perform an impromptu and/ or prepared presentation.

05.06 Prepare a resume and cover letter.

05.07 Prepare a thank you letter to a potential employer.

05.08 Discuss job searching skills.

05.09 Identify employment benefits.

05.10 Understand labor laws.

05.11 Understand appropriate procedures for changing jobs.

05.12 Complete a job application.

05.13 Demonstrate skills and appropriate dress/attire necessary for a successful job interview.

06.0 Identify components of network systems. The student will be able to:

06.01 Identify structure to access internet, including hardware and software components.

06.02 Identify user customization features in web browsers, including preferences, caching, bookmarks/ favorites and cookies.

06.03 Define database and identify how it is used in the business environment.

07.0 Perform activities using the worldwide web. The student will be able to:

07.01 Identify basic principles of the Domain Name System (DNS).

07.02 Perform advanced searches using Boolean operators.

07.03 Discuss email, email attachments, address book, and calendars.

CTE Standards and Benchmarks

07.04 Discuss instant messaging.

08.0 Describe how information technology is used in the Business Management and Administration career cluster. The student will be able to:

08.01 Identify through internet research information technology (IT) careers in the Business Management and Administration career cluster, including the responsibilities, tasks and skills they require.

08.02 Identify security-related ethical and legal IT issues faced by professionals in the Business Management and Administration career cluster.

09.0 Describe and use communication features of information technology. The student will be able to:

09.01 Define important internet communications protocols and their roles in delivering basic Internet services.

09.02 Identify security and privacy issues related to the Internet, including passwords and information theft.

09.03 Demonstrate ways to communicate effectively using Internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

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, including access to computers and appropriate software.

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Florida Department of Education
Curriculum Framework

Course Title: Computer Applications in Business 3
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200211
CIP Number	0507999903
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in advanced spreadsheet, intermediate digital design, introductory database, introductory web design, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

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
8200211	Computer Applications in Business 3	BUS ED 1 @2 CLERICAL @7 7 G COMPU SCI 6 SECRETAR 7 G TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Identify information technology tools and their proper uses.
- 02.0 Develop and apply spreadsheet skills utilizing current technology.
- 03.0 Develop and apply digital design skills utilizing current technology.
- 04.0 Develop and apply database skills utilizing current technology.
- 05.0 Develop and apply web design skills utilizing current technology.
- 06.0 Develop and utilize business-related skills.
- 07.0 Identify components of network systems.
- 08.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 09.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Computer Applications in Business 3
Course Number: 8200211
Course Length: Semester

Course Description:

This course is designed to provide instruction in advanced spreadsheet, intermediate digital design, introductory database, introductory web design, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

CTE Standards and Benchmarks	
01.0	Develop and apply spreadsheet skills utilizing current technology. The student will be able to:
01.01	Apply cell borders and shading.
01.02	Add a header and footer.
01.03	Rotate text in a cell.
01.04	Create a formula using mathematical operations.
01.05	Create a formula using more than one mathematical operation.
01.06	Create a formula finding maximum, minimum and average.
01.07	Format a chart changing the font size, component colors and rotation of charts for graphical emphasis.
01.08	Insert a picture in a worksheet.
02.0	Develop and apply digital design skills utilizing current technology. The student will be able to:
02.01	Apply special formatting including, but not limited to adding gradients to frames, text wrapping and positioning.
02.02	Insert graphics from files.
02.03	Create new document without using templates.
02.04	Ability to save graphics to file.

CTE Standards and Benchmarks

02.05 Demonstrate proficiency in advanced print layout options.

03.0 Develop and apply database skills utilizing current technology. The student will be able to:

03.01 Start and exit database software. Save a database in various formats i.e., file types.

03.02 Identify the parts of the database screen.

03.03 View the database window and use the navigation pane. Open an object in design view or layout view.

03.04 Create a table.

03.05 Enter records in datasheet view.

03.06 Change the column width in a datasheet. Use hide, unhide, freeze and unfreeze fields.

03.07 Add and delete fields and create relationships between tables.

03.08 Create and modify fields, for example specify text, numbers, currency, and yes/no.

03.09 Sort and filter record (use autofilter, filter by selection, and by form).

03.10 Create a report.

04.0 Develop and apply web design skills utilizing current technology. The student will be able to:

04.01 Identify and describe the various components of the Internet, including, WWW, email, FTP, and URL.

04.02 Understand the difference between web browser and search engine.

04.03 Describe the difference between a client and the various types of servers, including web servers.

04.04 Follow copyright laws.

04.05 Demonstrate an understanding of file storage and the path to describe the location of a document.

04.06 Describe how XHTML has altered the structure of HTML.

04.07 Identify and describe basic HTML/ XHTML terminology.

04.08 Identify and describe basic HTML/ XHTML tags.

04.09 Identify the elements of a webpage.

CTE Standards and Benchmarks

04.10 Produce a webpage using basic HTML tags, including but not limited to, links, anchors, lists, tables, background and fonts.

04.11 Include graphics in a webpage.

04.12 Use the Internet to find free components for a webpage such as Javascript, java applets, and banners.

04.13 Create a webpage for others to see.

05.0 Develop and utilize business-related skills. The student will be able to:

05.01 Classify characteristics of a positive attitude in the workplace.

05.02 Understand the importance of proper grooming and appearance for the workplace.

05.03 Apply problem solving skills to troubleshoot computer problems.

05.04 Identify brainstorming techniques.

05.05 Apply impromptu and/or prepared presentation skills.

05.06 Research sources of employment.

05.07 List employment benefits.

05.08 Identify child labor laws.

05.09 Identify appropriate procedures for changing jobs.

05.10 Discuss importance of being prepared to complete a job application.

05.11 Discuss employer expectations toward prospective and current employees.

05.12 Discuss the value of sharpening technology skills as the workplace environment changes.

05.13 Prepare a list of strategies for communicating in multicultural settings.

05.14 Analyze the importance of good work habits for success in the workplace.

06.0 Identify information technology tools and their proper uses. The student will be able to:

06.01 Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.

06.02 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Business, Management and Administration career cluster.

CTE Standards and Benchmarks

06.03	Use different web search engines effectively to locate information relevant to the Business, Management and Administration career cluster.
06.04	Understand how email clients send simple messages and files to other Internet users.
07.0	Identify components of network systems. The student will be able to:
07.01	Identify structure to access internet, including hardware and software components.
07.02	Identify user customization features in web browsers, including preferences, caching, bookmarks/ favorites and cookies.
07.03	Recognize essential database concepts.
08.0	Describe how information technology is used in the Business Management and Administration career cluster. The student will be able to:
08.01	Identify through Internet research information technology (IT) careers in the Business Management and Administration career cluster, including the responsibilities, tasks and skills they require.
08.02	Identify security-related ethical and legal IT issues faced by professionals in the Business Management and Administration career cluster.
09.0	Describe and use communication features of information technology. The student will be able to:
09.01	Define important Internet communications protocols and their roles in delivering basic Internet services.
09.02	Identify basic principles of the Domain Name System (DNS).
09.03	Identify security issues related to Internet clients.
09.04	Identify and use principles of personal information management (PIM), including common applications.
09.05	Identify and understand webcasting and related services.
09.06	Demonstrate ways to communicate effectively using Internet technology, such as email, webcast, websites, webpage, messaging, social networks, and blogging.

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, including access to computers and appropriate software.

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 and Technical Student Organization (CTSO)

Future Business Leaders of America (FBLA) and Business Professionals of America (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: Computer Applications in Business 4
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200212
CIP Number	0507999904
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in intermediate database, intermediate web design, introductory programming, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

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
8200212	Computer Applications in Business 4	BUS ED 1 @2 CLERICAL @7 7 G COMPU SCI 6 SECRETAR 7 G TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Identify information technology tools and their proper uses.
- 02.0 Develop and apply database skills utilizing current technology.
- 03.0 Develop and apply web design skills utilizing current technology.
- 04.0 Develop and apply programming skills utilizing current technology.
- 05.0 Develop and utilize business-related skills.
- 06.0 Identify components of network systems.
- 07.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 08.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Computer Applications in Business 4
Course Number: 8200212
Course Length: Semester

Course Description:

This course is designed to provide instruction in intermediate database, intermediate web design, introductory programming, and soft skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

CTE Standards and Benchmarks	
01.0	Identify information technology tools and their proper uses. The student will be able to:
01.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Business, Management and Administration career cluster.
01.02	Understand how e-mail clients send simple messages and files to other Internet users.
01.03	Use different web search engines effectively to locate information relevant to the Business, Management and Administration career cluster.
01.04	Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.
02.0	Develop and apply database skills utilizing current technology. The student will be able to:
02.01	Start and exit a database software.
02.02	Use the navigation pane/change the view of an objects in the navigation pane.
02.03	Create a database from a template
02.04	Edit records in datasheet view.
02.05	Add and delete records in datasheet view.

CTE Standards and Benchmarks

02.06 Cut, copy, and paste data in datasheet view.

02.07 Change the datasheet layout.

02.08 Hide columns in a table.

02.09 Create a table in design view/create and modify fields (or a field) in a datasheet.

02.10 Create a form and enter and edit data in a form.

02.11 Use form layout tools to modify a database design, arrangement and format (themes, fonts, colors).

02.12 Create a query. Save a database in a different format (i.e., file types).

03.0 Develop and apply web design skills utilizing current technology. The student will be able to:

03.01 Produce a Web page using basic HTML tags, including but not limited to, links, anchors, lists, tables, background and fonts.

03.02 Define principles of acceptable web design.

03.03 Understand how different web browsers interpret pages.

03.04 Understand the role of plug-ins.

03.05 Understand graphic, audio, and movie file formats and how they affect file size.

03.06 Use animated graphics, audio and video files in a webpage.

03.07 Use image editing software to create and edit images.

03.08 Demonstrate an understanding of compressing and decompressing files.

03.09 Understand the importance of regular file backup.

CTE Standards and Benchmarks

03.10 Create a webpage for others to see.

04.0 Develop and apply programming skills utilizing current technology. The student will be able to:

04.01 Give a brief history of computers.

04.02 Describe how hardware and software make up computer architecture.

04.03 Understand the binary representation of data and programs in computers.

04.04 Discuss the evolution of programming languages.

04.05 Describe the software development process.

04.06 Describe the fundamental concepts of object-oriented programming.

04.07 Discuss the importance of the selected programming language.

04.08 Describe the structure of a simple program.

04.09 Write a simple program.

04.10 Edit, compile, and run a program.

04.11 Format a program for visual effects.

04.12 Identify compile-time errors.

05.0 Develop and utilize business-related skills. The student will be able to:

05.01 Classify the characteristics of a positive attitude in the workplace.

05.02 Understand the importance of proper grooming and appearance for the workplace.

CTE Standards and Benchmarks

05.03 Utilize problem solving skills in programming areas.

05.04 Utilize brainstorming techniques to solve a problem.

05.05 Apply impromptu and/or prepared presentation skills.

05.06 Research sources of employment.

05.07 Discuss employment benefits.

05.08 Discuss child labor laws.

05.09 Evaluate appropriate procedures for changing jobs.

05.10 Evaluate a quality completed job application.

05.11 Identify characteristics of ethical behavior in the workplace.

05.12 Understand the importance of personal integrity in the workplace.

05.13 Develop an understanding of the skills that transfer from school to work.

06.0 Identify components of network systems. The student will be able to:

06.01 Identify structure to access internet, including hardware and software components.

06.02 Identify user customization features in web browsers, including preferences, caching, bookmarks/ favorites and cookies.

06.03 Recognize essential database concepts.

07.0 Describe how information technology is used in the Business Management and Administration career cluster. The student will be able to:

07.01 Identify through Internet research information technology (IT) careers in the Business Management and Administration career cluster, including the responsibilities, tasks and skills they require.

CTE Standards and Benchmarks

07.02 Identify security-related ethical and legal IT issues faced by professionals in the Business Management and Administration career cluster.

08.0 Describe and use communication features of information technology. The student will be able to:

08.01 Define important Internet communications protocols and their roles in delivering basic Internet services.

08.02 Identify basic principles of the Domain Name System (DNS).

08.03 Identify security issues related to Internet clients.

08.04 Identify and use principles of personal information management (PIM), including common applications.

08.05 Identify and understand webcasting and related services.

08.06 Demonstrate ways to communicate effectively using Internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

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, including access to computers and appropriate software.

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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: Computer Applications in Business 1 and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200220
CIP Number	05079999CE
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in intermediate keyboarding, intermediate word processing, intermediate electronic presentation, intermediate computer hardware, intermediate Internet, introductory spreadsheet, and skills for business applications.

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
8200220	Computer Applications in Business 1 and Career Planning	BUS ED 1 @2 COMPU SCI 6 ENG&TEC ED1@2 TC COOP ED @7 TEC ED 1@2 VOE @7	Semester

Standards

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

- 01.0 Identify and understand computer hardware.
- 02.0 Identify information technology tools and their proper uses.
- 03.0 Develop and apply keyboarding skills utilizing current technology.
- 04.0 Develop and apply word processing skills utilizing current technology.
- 05.0 Develop and apply electronic presentation skills utilizing current technology.
- 06.0 Develop and apply spreadsheet skills utilizing current technology.
- 07.0 Develop and utilize business-related skills.
- 08.0 Perform activities using the worldwide web.
- 09.0 Describe how information technology is used in the Business, Management and Administration career cluster.
- 10.0 Describe and use communication features of information technology.

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: Computer Applications in Business 1 and Career Planning
Course Number: 8200220
Course Length: Semester

Course Description:

This course is designed to provide instruction in intermediate keyboarding, intermediate word processing, intermediate electronic presentation, intermediate computer hardware, intermediate Internet, introductory spreadsheet, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

CTE Standards and Benchmarks	
01.0	Identify and understand computer hardware. The student will be able to:
01.01	Define and identify input, output, and storage devices and their functions.
01.02	Define and identify memory in a computer.
02.0	Identify information technology tools and their proper uses. The student will be able to:
02.01	Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.
03.0	Develop and apply keyboarding skills utilizing current technology. The student will be able to:
03.01	Demonstrate proper keyboarding techniques using correct ergonomic habits.
03.02	Demonstrate safety and respect for equipment materials in lab.
03.03	Demonstrate proper techniques for alphanumeric keyboarding while keeping fingers on home row keys.

CTE Standards and Benchmarks

04.0 Develop and apply word processing skills utilizing current technology. The student will be able to:

04.01 Start and exit word processing software.

04.02 Apply different views to a document – select zoom options, document view, split windows, arrange windows, and switch windows.

04.03 Move text in a document using the copying/cutting/pasting and drag/drop text commands.

04.04 Apply tabs, line spacing and paragraph indents.

04.05 Align text horizontally and vertically.

04.06 Apply character attributes – font, font size, font color, underline, bold, italic, and text effects.

04.07 Apply styles in a document.

04.08 Utilize the undo and redo commands.

04.09 Utilize the show/hide command.

04.10 Use find and replace.

04.11 Utilize the format painter.

04.12 Utilize the text highlight feature in a document – select highlight color.

04.13 Insert date and time.

04.14 Insert and manipulate graphics, word art and text boxes.

04.15 Insert and remove a manual page break in a document.

04.16 Create bulleted and numbered lists.

CTE Standards and Benchmarks

04.17 Create a table – inserting, moving, and entering data.

04.18 Format a table – insert/delete columns, rows, and cells and merge cells.

04.19 Format a table – changing column/row width/height.

04.20 Apply table alignment on document horizontally and vertically.

04.21 Apply text and number alignment within a table.

04.22 Use table tools to change table styles, apply borders, and shading.

04.23 Set the page layout in a document – margins, page orientation, and page size.

04.24 Change the page background – insert a watermark, page border, and change the page color.

04.25 Create headers and footers in a document.

04.26 Use spell/grammar check/thesaurus programs properly.

04.27 Use basic proofreading skills including proofreader's marks.

04.28 Understand the difference between save and save as.

04.29 Save a document – specify file name and location.

04.30 Save a document in a different format, e.g., PDF, Web page, and jpeg.

04.31 Understand printing options including printer selection, scale to fit, and page number selection.

05.0 Develop and apply electronic presentation skills utilizing current technology. The student will be able to:

05.01 Start and exit presentation software.

CTE Standards and Benchmarks

05.02 Apply fill effects, lines and shapes.

05.03 Demonstrate ability to order, group and rotate objects.

05.04 Demonstrate ability to animate graphics.

05.05 Apply slide transitions and timings.

05.06 Incorporate text, tables, charts and graphic transitions into document.

05.07 Add sound using various media e.g. internet and/or files.

05.08 Apply action buttons.

05.09 Insert a hyperlink.

05.10 Rearrange slide order through slide sorter.

05.11 Create note page to aid in oral presentation of slide show.

05.12 Customize timing and rehearsing to coordinate with oral presentation.

05.13 Save a presentation in a different format, e.g., PDF and webpage.

05.14 Demonstrate the ability to spell check and print presentations using different settings.

05.15 Demonstrate presentation skills.

06.0 Develop and apply spreadsheet skills utilizing current technology. The student will be able to:

06.01 Start and exit spreadsheet software.

06.02 Identify the parts of the spreadsheet screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

CTE Standards and Benchmarks

06.03 Create a new worksheet.

06.04 Change column width and row height.

06.05 Format the contents of a cell, i.e., change fonts and font sizes, align text, and format numbers.

06.06 Merge cells.

06.07 Use undo and redo commands.

06.08 Autoformat the worksheet if available. autoformat applies borders, shading, and data formatting.

06.09 Use the auto sum feature.

06.10 Create a chart.

07.0 Develop and utilize business-related skills. The student will be able to:

07.01 Demonstrate an understanding of the importance of a positive attitude in obtaining and maintaining a job.

07.02 Identify grooming/dress standards in various workplace environments.

07.03 Demonstrate problem solving skills.

07.04 Demonstrate an awareness of teamwork.

07.05 Make an impromptu presentation.

07.06 Make a prepared presentation.

07.07 Collaborate and effectively use teamwork to present in a group.

CTE Standards and Benchmarks

08.0 Perform activities using the worldwide web. The student will be able to:

08.01 Identify and define Internet vocabulary such as hyperlink, WWW, URL, and web browser.

08.02 Understand basic principles of the Domain Name System (DNS).

08.03 Perform basic Internet searches.

08.04 Identify and use various web browsers.

08.05 Copy and paste from browser to other applications.

08.06 Identify and use various search engines.

08.07 Evaluate websites.

08.08 Understand favorites/ bookmarks.

08.09 Understand and demonstrate Internet safety.

08.10 Discuss Internet privacy, ethics, network etiquette and copyright laws.

08.11 Download files.

08.12 Download graphics.

09.0 Describe how information technology is used in the Business, Management and Administration career cluster. The student will be able to:

09.01 Identify through internet research information technology (IT) careers in the Business, Management and Administration career cluster, including the responsibilities, tasks and skills they require.

09.02 Identify security-related ethical and legal IT issues faced by professionals in the Business, Management and Administration career cluster.

CTE Standards and Benchmarks

10.0 Describe and use communication features of information technology. The student will be able to:

10.01 Identify security and privacy issues related to the Internet, including passwords and information theft.

10.02 Identify and/or use various ways to communicate effectively using internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

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, including access to computers and appropriate software.

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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)

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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: Computer Applications in Business 1
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8200520
CIP Number	05079999MS
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to instruction in intermediate keyboarding, intermediate word processing, intermediate electronic presentation, intermediate computer hardware, intermediate Internet, introductory spreadsheet, and skills for business applications. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

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
8200520	Computer Applications in Business 1	BUS ED 1 @2 COMPU SCI 6 ENG&TEC ED1@2 TC COOP ED @7 TEC ED 1@2 VOE @7	Semester

Standards

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

- 01.0 Identify and understand computer hardware.
- 02.0 Identify information technology tools and their proper uses.
- 03.0 Develop and apply keyboarding skills utilizing current technology.
- 04.0 Develop and apply word processing skills utilizing current technology.
- 05.0 Develop and apply electronic presentation skills utilizing current technology.
- 06.0 Develop and apply spreadsheet skills utilizing current technology.
- 07.0 Develop and utilize business-related skills.
- 08.0 Perform activities using the worldwide web.
- 09.0 Describe how information technology is used in the Business, Management and Administration career cluster.
- 10.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Computer Applications in Business 1
Course Number: 8200520
Course Length: Semester

Course Description:

This course is designed to provide instruction in intermediate keyboarding, intermediate word processing, intermediate electronic presentation, intermediate computer hardware, intermediate Internet, introductory spreadsheet, and business applications skills. These competencies provide the skills necessary to ensure increased productivity and efficient utilization of equipment.

CTE Standards and Benchmarks	
01.0	Identify and understand computer hardware. The student will be able to:
01.01	Define and identify input, output, and storage devices and their functions.
01.02	Define and identify memory in a computer.
02.0	Identify information technology tools and their proper uses. The student will be able to:
02.01	Define and identify various software applications (word processing, spreadsheets, database, presentation, digital publishing) and their uses.
03.0	Develop and apply keyboarding skills utilizing current technology. The student will be able to:
03.01	Demonstrate proper keyboarding techniques using correct ergonomic habits.
03.02	Demonstrate safety and respect for equipment materials in lab.
03.03	Demonstrate proper techniques for alphanumeric keyboarding while keeping fingers on home row keys.
04.0	Develop and apply word processing skills utilizing current technology. The student will be able to:
04.01	Start and exit word processing software.
04.02	Apply different views to a document – select zoom options, document view, split windows, arrange windows, and switch windows.
04.03	Move text in a document using the copying/cutting/pasting and drag/drop text commands.
04.04	Apply tabs, line spacing and paragraph indents.

CTE Standards and Benchmarks

04.05 Align text horizontally and vertically.

04.06 Apply character attributes – font, font size, font color, underline, bold, italic, and text effects.

04.07 Apply styles in a document.

04.08 Utilize the undo and redo commands.

04.09 Utilize the show/hide command.

04.10 Use find and replace.

04.11 Utilize the format painter.

04.12 Utilize the text highlight feature in a document – select highlight color.

04.13 Insert date and time.

04.14 Insert and manipulate graphics, word art and text boxes.

04.15 Insert and remove a manual page break in a document.

04.16 Create bulleted and numbered lists.

04.17 Create a table – inserting, moving, and entering data.

04.18 Format a table – insert/delete columns, rows, and cells and merge cells.

04.19 Format a table – changing column/ row width/ height.

04.20 Apply table alignment on document – horizontally and vertically.

04.21 Apply text and number alignment within a table.

04.22 Use table tools – change table styles, apply borders, and shading.

04.23 Set the page layout in a document – margins, page orientation, and page size.

04.24 Change the page background – insert a watermark, page border, and change the page color.

04.25 Create headers and footers in a document.

04.26 Use spell/grammar check/thesaurus programs properly.

CTE Standards and Benchmarks

04.27 Use basic proofreading skills including proofreader's marks.

04.28 Understand the difference between save and save as.

04.29 Save a document – specify file name and location.

04.30 Save a document in a different format, e.g., PDF, webpage, and jpeg.

04.31 Understand printing options including printer selection, scale to fit, and page number selection.

05.0 Develop and apply electronic presentation skills utilizing current technology. The student will be able to:

05.01 Start and exit presentation software.

05.02 Apply fill effects, lines and shapes.

05.03 Demonstrate ability to order, group and rotate objects.

05.04 Demonstrate ability to animate graphics.

05.05 Apply slide transitions and timings.

05.06 Incorporate text, tables, charts and graphic transitions into document.

05.07 Add sound using various media e.g., internet and/or files.

05.08 Apply action buttons.

05.09 Insert a hyperlink.

05.10 Rearrange slide order through slide sorter.

05.11 Create note page to aid in oral presentation of slide show.

05.12 Customize timing and rehearsing to coordinate with oral presentation.

05.13 Save a presentation in a different format, e.g., PDF and webpage.

05.14 Demonstrate the ability to spell check and print presentations using different settings.

05.15 Demonstrate presentation skills.

CTE Standards and Benchmarks

06.0 Develop and apply spreadsheet skills utilizing current technology. The student will be able to:

06.01 Start and exit spreadsheet software.

06.02 Identify the parts of the spreadsheet screen, e.g., ribbon, status bar, title bar, insertion point, scroll box and bar, and tabs.

06.03 Create a new worksheet.

06.04 Change column width and row height.

06.05 Format the contents of a cell, i.e., change fonts and font sizes, align text, and format numbers.

06.06 Merge cells.

06.07 Use undo and redo commands.

06.08 AutoFormat the worksheet if available. AutoFormat applies borders, shading, and data formatting.

06.09 Use the auto sum feature.

06.10 Create a chart.

07.0 Develop and utilize business-related skills. The student will be able to:

07.01 Demonstrate an understanding of the importance of a positive attitude in obtaining and maintaining a job.

07.02 Identify grooming/dress standards in various workplace environments.

07.03 Demonstrate problem solving skills.

07.04 Demonstrate an awareness of teamwork.

07.05 Make an impromptu presentation.

07.06 Make a prepared presentation.

07.07 Collaborate and effectively use teamwork to present in a group.

08.0 Perform activities using the worldwide web. The student will be able to:

08.01 Identify and define Internet vocabulary such as hyperlink, WWW, URL, and web browser.

08.02 Understand basic principles of the Domain Name System (DNS).

CTE Standards and Benchmarks

08.03	Perform basic Internet searches.
08.04	Identify and use various web browsers.
08.05	Copy and paste from browser to other applications.
08.06	Identify and use various search engines.
08.07	Evaluate websites.
08.08	Understand favorites/bookmarks.
08.09	Understand and demonstrate Internet safety.
08.10	Discuss Internet privacy, ethics, network etiquette and copyright laws.
08.11	Download files.
08.12	Download graphics.
09.0	Describe how information technology is used in the Business, Management and Administration career cluster. The student will be able to:
09.01	Identify through internet research information technology (IT) careers in the Business, Management and Administration career cluster, including the responsibilities, tasks and skills they require.
09.02	Identify security-related ethical and legal IT issues faced by professionals in the Business, Management and Administration career cluster.
10.0	Describe and use communication features of information technology. The student will be able to:
10.01	Identify security and privacy issues related to the Internet, including passwords and information theft.
10.02	Identify and/or use various ways to communicate effectively using internet technology, such as email, webcast, website, webpage, messaging, social networks, and blogging.

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, including access to computers and appropriate software.

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)

Future Business Leaders of America (FBLA) and Business Professionals of America (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: Careers in Fashion and Interior Design
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8209100
CIP Number	0404050107
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, the development of leadership skills, communication skills, and employability skills; resource management; exploration of design careers; working with textiles and elements of design; basic sewing skills; making clothing choices; technology in the design industry; and, the completion of projects related to fashion and interior design. 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
8209100	Careers in Fashion and Interior Design	FAM CON SC 1	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 design industry.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the design industry.
- 05.0 Select and use tools and equipment.
- 06.0 Identify characteristics and care of textiles.
- 07.0 Explain the elements and principles of design.
- 08.0 Explain how environmental factors impact design.
- 09.0 Demonstrate basic sewing skills.
- 10.0 Analyze clothing choices.
- 11.0 Develop a project related to fashion.
- 12.0 Analyze interior design choices.
- 13.0 Develop a project related to interior design.
- 14.0 Utilize technology as it relates to the design industry.
- 15.0 Demonstrate the skills involved in effective resource management.

**Florida Department of Education
Student Performance Standards**

Course Title: Careers in Fashion and Interior Design
Course Number: 8209100
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 interior design and fashion design. The content includes, but is not limited to, the development of leadership skills, communication skills, and employability skills; resource management; exploration of design careers; working with textiles and elements of design; basic sewing skills; making clothing choices; technology in the design industry; and, the completion of projects related to fashion and interior design.

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 planning process.
01.05	Develop a personal growth project.
02.0	Demonstrate employability skills as they relate to the design 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 workplace.
02.02	Practice teamwork skills.
02.03	Practice employability skills.
02.04	Practice positive work ethics and identify negative work ethics.
02.05	Exhibit work expectations of an employer in the design industry.
02.06	Apply math, reading, science, and critical thinking skills as they relate to the design industry.
03.0	Demonstrate effective communication skills – the student will be able to:

CTE Standards and Benchmarks

03.01 Describe why communication is the basis for all relationships.

03.02 Distinguish between non-assertive, assertive, and aggressive communication.

03.03 Demonstrate communication skills that promote positive relationships in the workplace.

03.04 Practice active listening skills.

03.05 Utilize conflict resolution skills.

04.0 Analyze careers in the design industry – the student will be able to:

04.01 Describe careers in the design industry.

04.02 Classify careers from entry level to professional level.

04.03 Explore entrepreneurship opportunities in the design industry.

04.04 Research and present information on a design career to include roles and responsibilities, employment opportunities and requirements for education and training.

05.0 Select and use tools and equipment – the student will be able to:

05.01 Identify and select the appropriate tool for an assignment.

05.02 Demonstrate the proper and safe use of tools and equipment.

05.03 Practice care and maintenance of tools and equipment.

06.0 Identify characteristics and care of textiles – the student will be able to:

06.01 Identify a variety of fabrics through tactile activities.

06.02 Compare and contrast natural and synthetic fabrics.

06.03 Recognize types of fabric construction.

06.04 Identify fabrics appropriate for various purposes.

07.0 Explain the elements and principles of design – the student will be able to:

07.01 Define and illustrate the elements of design.

07.02 Describe a color wheel and its use in design.

07.03 Recognize basic color schemes.

CTE Standards and Benchmarks

07.04 Research the psychology of color.

07.05 Define and illustrate the principles of design.

08.0 Explain how environmental factors impact design – the student will be able to:

08.01 Define green design, sustainable design, and life cycle cost.

08.02 Research eco-friendly design products.

08.03 Examine the positive and negative impact that a design product has on the environment.

09.0 Demonstrate basic sewing skills – the student will be able to:

09.01 Identify and give the purpose of sewing machine parts.

09.02 Demonstrate math skills as they relate to sewing.

09.03 Demonstrate the threading of a sewing machine.

09.04 Demonstrate straight stitching.

09.05 Identify and demonstrate various stitch length and width selections.

09.06 Interpret written instructions and construct a basic sewing project.

10.0 Analyze clothing choices – the student will be able to:

10.01 Explain the impact of trends and social climates on fashion styles.

10.02 Identify appropriate clothing styles for various events.

10.03 Identify factors that impact clothing costs.

10.04 Demonstrate the procedure for recording accurate body measurements.

10.05 Analyze proper fit.

11.0 Develop a project related to fashion – the student will be able to:

11.01 Select materials and supplies for a fashion project.

11.02 Calculate the costs of a given fashion project.

11.03 Interpret written directions for constructing a fashion project.

CTE Standards and Benchmarks

11.04 Apply math skills and construct a fashion project.

12.0 Analyze interior design choices – the student will be able to:

12.01 Explain the impact of political and social climates on decorating styles.

12.02 Identify characteristics of furnishing styles.

12.03 Identify factors that impact furnishing choices.

13.0 Develop a project related to interior design – the student will be able to:

13.01 Apply the principals and elements of design in selecting an interior design project.

13.02 Calculate the costs of an interior design project.

13.03 Interpret written directions for assembling/constructing an interior design project.

13.04 Apply math skills and construct an interior design project.

14.0 Utilize technology as it relates to the design industry – the student will be able to:

14.01 Identify technology utilized in the design industry.

14.02 Analyze technology trends impacting the design industry.

14.03 Utilize technology.

15.0 Demonstrate the skills involved in effective resource management – the student will be able to:

15.01 Identify steps of the decision-making process.

15.02 Distinguish between a need and a want.

15.03 Explain how values and goals affect decisions.

15.04 Develop a budget and savings plan.

15.05 Analyze the relationship between resources and the attainment of lifestyle goals.

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)

Florida 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 post-secondary 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: post-secondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Careers in Fashion and Interior Design and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8209200
CIP Number	0404050108
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, the development of leadership skills, communication skills, and employability skills; resource management; exploration of design careers; working with textiles and elements of design; basic sewing skills; making clothing choices; technology in the design industry; and completion of projects related to fashion and interior design.

This course is similar to Careers in Fashion and Interior Design; however, it includes career and education planning competencies.

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
8209200	Careers in Fashion and Interior Design 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 leadership skills.
- 02.0 Demonstrate employability skills as they relate to the design industry.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the design industry.
- 05.0 Select and use tools and equipment.
- 06.0 Identify characteristics and care of textiles.
- 07.0 Explain the elements and principles of design.
- 08.0 Explain how environmental factors impact design.
- 09.0 Demonstrate basic sewing skills.
- 10.0 Analyze clothing choices.
- 11.0 Develop a project related to fashion.
- 12.0 Analyze interior design choices.
- 13.0 Develop a project related to interior design.
- 14.0 Utilize technology as it relates to the design industry.
- 15.0 Demonstrate the skills involved in effective resource management.

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

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

Florida Department of Education
 Student Performance Standards

Course Title: Careers in Fashion and Interior Design and Career Planning
Course Number: 8209200
Course Length: Semester

Course Description:

This course will assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in interior design and fashion design. The content includes, but is not limited to, the development of leadership skills, communication skills, and employability skills; resource management; exploration of design careers; working with textiles and elements of design; basic sewing skills; making clothing choices; technology in the design industry; and completion of projects related to fashion and interior design.

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 planning process.
01.05	Develop a personal growth project.
02.0	Demonstrate employability skills as they relate to the design industry – the student will be able to:
02.02	Identify personal talents and abilities that can contribute to positive self-esteem and success in the workplace.
02.03	Practice teamwork skills.
02.04	Practice employability skills.
02.05	Practice positive work ethics and identify negative work ethics.
02.06	Exhibit work expectations of an employer in the design industry.
02.07	Apply math, reading, science, and critical thinking skills as they relate to the design industry.
03.0	Demonstrate effective communication skills – the student will be able to:

03.02	Describe why communication is the basis for all relationships.
03.03	Distinguish between non-assertive, assertive, and aggressive communication.
03.04	Demonstrate communication skills that promote positive relationships in the workplace.
03.05	Practice active listening skills.
03.06	Utilize conflict resolution skills.
04.0	Analyze careers in the design industry – the student will be able to:
04.01	Describe careers in the design industry.
04.02	Classify careers from entry level to professional level.
04.03	Explore entrepreneurship opportunities in the design industry
04.04	Research and present information on a design career to include roles and responsibilities, employment opportunities and requirements for education and training.
05.0	Select and use tools and equipment – the student will be able to:
05.01	Identify and select the appropriate tool for an assignment.
05.02	Demonstrate the proper and safe use of tools and equipment.
05.03	Practice care and maintenance of tools and equipment.
06.0	Identify characteristics and care of textiles – the student will be able to:
06.01	Identify a variety of fabrics through tactile activities.
06.02	Compare and contrast natural and synthetic fabrics.
06.03	Recognize types of fabric construction.
06.04	Identify fabrics appropriate for various purposes.
07.0	Explain the elements and principles of design – the student will be able to:
07.01	Define and illustrate the elements of design.
07.02	Create a color wheel.
07.03	Recognize basic color schemes.
07.04	Research the psychology of color.

07.05	Define and illustrate the principles of design.
08.0	Explain how environmental factors impact design – the student will be able to:
08.01	Define green design.
08.02	Research eco-friendly design products.
08.03	Examine the positive and negative impact that a design product has on the environment.
08.04	Redesign an item into another useful product.
09.0	Demonstrate basic sewing skills – the student will be able to:
09.01	Identify and give the purpose of sewing machine parts.
09.02	Demonstrate math skills as they relate to sewing.
09.03	Demonstrate the threading of a sewing machine.
09.04	Demonstrate straight stitching.
09.05	Identify and demonstrate various stitch length and width selections.
09.06	Interpret written instructions and construct a basic sewing project.
10.0	Analyze clothing choices – the student will be able to:
10.01	Explain the impact of trends and social climates on fashion styles.
10.02	Identify appropriate clothing styles for various events.
10.03	Identify factors that impact clothing costs.
10.04	Demonstrate the procedure for recording accurate body measurements.
10.05	Analyze proper fit.
11.0	Develop a project related to fashion – the student will be able to:
11.01	Select materials and supplies for a fashion project.
11.02	Calculate the costs of a given fashion project.
11.03	Interpret written directions for constructing a fashion project.
11.04	Apply math skills and construct a fashion project.

12.0	Analyze interior design choices – the student will be able to:
12.01	Explain the impact of political and social climates on decorating styles.
12.02	Identify characteristics of furnishing styles.
12.03	Identify factors that impact furnishing choices.
13.0	Develop a project related to interior design – the student will be able to:
13.01	Apply the principals and elements of design in selecting an interior design project.
13.02	Interpret written directions for assembling/constructing an interior design project.
13.03	Apply math skills and construct an interior design project.
14.0	Utilize technology as it relates to the design industry – the student will be able to:
14.01	Identify technology utilized in the design industry.
14.02	Analyze technology trends impacting the design industry.
14.03	Utilize technology.
15.0	Demonstrate the skills involved in effective resource management – the student will be able to:
15.01	Identify steps of the decision-making process.
15.02	Distinguish between a need and a want.
15.03	Explain how values and goals affect decisions.
15.04	Develop a budget and savings plan.
15.05	Analyze the relationship between resources and the attainment of lifestyle goals.
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:	
16.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
17.0	Develop skills to locate, evaluate, and interpret career information.
18.0	Identify and demonstrate processes for making short and long term goals.

19.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
20.0	Understand the relationship between educational achievement and career choices/post-secondary options.
21.0	Identify a career cluster and related pathways that match career and education goals.
22.0	Develop a career and education plan that includes short- and long-term goals, a secondary-level program of study, and post-secondary/career goals.
23.0	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)

Florida 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 post-secondary 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: post-secondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: Careers in Fashion Design
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8209310
CIP Number	04190901MS
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, the development of leadership, communication, and employability skills, resource management, and the exploration of fashion design careers. Students will work with textiles and design elements, learn basic sewing skills, make clothing selections, utilize industry-related technology, and complete projects related to fashion technology and design. 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
8209310	Careers in Fashion Design	FAM CON SC 1 FASH TECH 7 G	Semester

Standards

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

- 01.0 Demonstrate teamwork and leadership skills.
- 02.0 Demonstrate employability skills related to the fashion design industry.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the fashion design industry.
- 05.0 Demonstrate knowledge of the history of fashion.
- 06.0 Select and use tools and equipment.
- 07.0 Identify the characteristics and care of textiles.
- 08.0 Explain the elements and principles of design.
- 09.0 Explain the impact of repairing, altering, redesigning or recycling a garment.
- 10.0 Demonstrate basic sewing skills.
- 11.0 Analyze clothing choices.
- 12.0 Demonstrate the proper procedure for taking accurate body measurements.
- 13.0 Develop a project related to fashion technology and design.
- 14.0 Utilize technology related to the fashion design industry.
- 15.0 Demonstrate the skills involved in effective resource management.

**Florida Department of Education
Student Performance Standards**

Course Title: Careers in Fashion Design
Course Number: 8209310
Course Length: Semester

Course Description:

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 fashion design industry. The content includes, but is not limited to, the development of leadership, communication, and employability skills, resource management, and the exploration of fashion design careers. Students will work with textiles and design elements, learn basic sewing skills, make clothing selections, utilize industry-related technology, and complete projects related to fashion technology and design.

CTE Standards and Benchmarks	
01.0	Demonstrate teamwork and leadership skills – the student will be able to:
01.01	Identify the purposes, functions, roles, and responsibilities of members of professional and youth organizations and career and technical student organizations (CTSO).
01.02	Work cooperatively as a group member to demonstrate leadership and achieve organizational goals.
01.03	Identify leadership roles and organizational responsibilities.
01.04	Identify and utilize the planning process.
01.05	Research and discuss the history of the related CTSO.
02.0	Demonstrate employability skills related to the fashion design industry – the student will be able to:
02.01	Identify personal talents and abilities that contribute to positive self-esteem and workplace success.
02.02	Identify and practice teamwork skills.
02.03	Identify and demonstrate employability skills.
02.04	Identify and demonstrate positive work ethics; determine negative work ethics.
02.05	Exhibit the work-related expectations of an employer in the fashion design industry.
02.06	Apply the math, reading, science, and critical thinking skills related to the fashion design industry.

CTE Standards and Benchmarks

03.0 Demonstrate effective communications skills – the student will be able to:

03.01 Describe the ways communication forms the basis for all relationships.

03.02 Distinguish between aggressive, assertive, and non-assertive forms of communication.

03.03 Demonstrate communications skills that promote positive workplace relationships.

03.04 Practice active listening skills.

03.05 Demonstrate conflict resolution skills.

04.0 Analyze careers in the fashion design industry – the student will be able to:

04.01 Research and describe careers in the fashion design industry.

04.02 Classify career options from entry level to professional level.

04.03 Explore entrepreneurship opportunities in the fashion design industry.

04.04 Research and present information on a fashion design career; include the roles and responsibilities, employment opportunities, and requirements for education and training.

05.0 Demonstrate knowledge of the history of fashion – the student will be able to:

05.01 Explain how historical periods impact fashion.

05.02 Explain the impact of social changes, history, politics, and culture on fashion and fashion design.

05.03 Identify the factors that impact fashion choices.

06.0 Select and use tools and equipment – the student will be able to:

06.01 Identify and select the appropriate tools for an assignment.

06.02 Demonstrate the proper and safe use of tools and equipment.

06.03 Demonstrate care and maintenance of tools and equipment.

07.0 Identify the characteristics and care of textiles – the student will be able to:

07.01 Identify a variety of fabrics through textile activities.

07.02 Compare and contrast natural and synthetic fibers and fabrics.

CTE Standards and Benchmarks

07.03 Recognize different types of fabric construction.

07.04 Identify the appropriate use/purpose of a variety of fabric types.

08.0 Explain the elements and principles of design – the student will be able to:

08.01 Define and illustrate the elements of design.

08.02 Describe a color wheel and its use in fashion design.

08.03 Recognize basic color schemes.

08.04 Research the psychology of color.

08.05 Define and illustrate the principles of design.

09.0 Explain the impact of repairing, altering, redesigning or recycling a garment – the student will be able to:

09.01 Define *green design*, *sustainable design*, and *life cycle cost*.

09.02 Research eco-friendly design products.

09.03 Examine the positive and negative environmental impact of a design product.

09.04 Select a used fashion item to recycle into a new product; create a new product using the recycled item.

10.0 Demonstrate basic sewing skills – the student will be able to:

10.01 Identify the parts of a sewing machine; state the purpose of each part.

10.02 Demonstrate mathematical skills related to sewing.

10.03 Thread a sewing machine.

10.04 Demonstrate straight-stitching.

10.05 Identify and demonstrate various stitch lengths and widths.

10.06 Interpret written instructions and construct a basic sewing project.

11.0 Analyze clothing choices – the student will be able to:

11.01 Explain the impact of trends and social climates on fashion styles.

CTE Standards and Benchmarks

11.02 Identify the appropriate clothing styles for a variety of events.

11.03 Identify the factors that impact clothing costs.

12.0 Demonstrate the proper procedure for taking accurate body measurements – the student will be able to:

12.01 Identify different figure types.

12.02 Explain and describe the components of a pattern.

12.03 Identify the symbols found on a pattern piece.

12.04 Demonstrate how to pin and prepare fabric for a fashion project.

12.05 Analyze proper fit.

13.0 Develop a project related to fashion technology and design – the student will be able to:

13.01 Select the materials and supplies for a fashion project.

13.02 Calculate the costs associated with a specified fashion project.

13.03 Interpret written directions to construct a fashion project.

13.04 Apply mathematical skills to construct a fashion project.

14.0 Utilize technology related to the fashion design industry – the student will be able to:

14.01 Identify the technology and software utilized in the fashion design industry.

14.02 Analyze technological trends that impact the fashion design industry.

14.03 Utilize technology related to the fashion design industry.

15.0 Demonstrate the skills involved in effective resource management – the student will be able to:

15.01 Identify the steps of the decision-making process.

15.02 Distinguish between a need and a want.

15.03 Explain how values and goals affect decision-making.

15.04 Develop a budget and savings plan.

CTE Standards and Benchmarks

15.05 Analyze the relationship between resources and the attainment of lifestyle goals.

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)

Florida 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 Arts, A/V Technology and Communication
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School	
Course Number	8209350
CIP Number	148209350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, technology literacy; understanding the importance of Arts and A/V; understanding the role of science, math, reading, writing, history, and technology in Arts and A/V; and Digital Media. 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
8209350	Introduction to Arts, A/V Technology and Communication	BUS ED 1 @2 COMM ART @7 7G COMP SCI 6 @2 MKTG 1 PRINTING @7 7G SECRETAR 7 G TC COOP ED @7 TEC ED 1@2 ENG&TEC ED1@2 TV PRO TEC @7 7G VOE @7	Semester

Standards

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

- 01.0 Demonstrate an understanding of the Audio and Video Technology and Film career pathway.
- 02.0 Demonstrate an understanding of the Telecommunications career pathway.
- 03.0 Demonstrate an understanding of the Printing Technology career pathway.
- 04.0 Demonstrate an understanding of the Visual Arts career pathway.
- 05.0 Demonstrate an understanding of the Performing Arts career pathway.
- 06.0 Apply leadership and communication skills.
- 07.0 Describe how information technology is used in the Arts, A/V Technology and Communication career cluster.
- 08.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Arts, A/V Technology and Communication
Course Number: 8209350
Course Length: Semester

Course Description:

Beginning with a broad overview of the Arts, A/V Technology and Communication career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Arts, A/V Technology and Communication career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills as well as opportunities for hands-on activities.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Audio and Video Technology and Film career pathway – the student will be able to:
01.01	Define and use proper terminology associated with the Audio and Video Technology and Film career pathway.
01.02	Describe some of the careers available in the Audio and Video Technology and Film career pathway.
01.03	Identify common characteristics of the careers in the Audio and Video Technology and Film career pathway.
01.04	Research the history of the Audio and Video Technology and Film 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 Audio and Video Technology and Film career pathway.
01.06	Describe technologies associated in careers within the Audio and Video Technology and Film career pathway.
02.0	Demonstrate an understanding of the Telecommunications career pathway – the student will be able to:
02.01	Define and use proper terminology associated with the Telecommunications career pathway.
02.02	Describe some of the careers available in the Telecommunications career pathway.
02.03	Identify common characteristics of the careers in the Telecommunications career pathway.
02.04	Research the history of the Telecommunications 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 Telecommunications career pathway.
02.06	Describe technologies associated in careers within the Telecommunications career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Printing Technology career pathway – the student will be able to:

03.01 Define and use proper terminology associated with the Printing Technology career pathway.

03.02 Describe some of the careers available in the Printing Technology career pathway.

03.03 Identify common characteristics of the careers in the Printing Technology career pathway.

03.04 Research the history of the Printing Technology 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 Printing Technology career pathway.

03.06 Describe technologies associated in careers within the Printing Technology career pathway.

04.0 Demonstrate an understanding of the Visual Arts career pathway – the student will be able to:

04.01 Define and use proper terminology associated with the Visual Arts career pathway.

04.02 Describe some of the careers available in the Visual Arts career pathway.

04.03 Identify common characteristics of the careers in the Visual Arts career pathway.

04.04 Research the history of the Visual Arts 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 Visual Arts career pathway.

04.06 Describe technologies associated in careers within the Visual Arts career pathway.

05.0 Demonstrate an understanding of the Performing Arts career pathway – the student will be able to:

05.01 Define and use proper terminology associated with the Performing Arts career pathway.

05.02 Describe some of the careers available in the Performing Arts career pathway.

05.03 Identify common characteristics of the careers in the Performing Arts career pathway.

05.04 Research the history of the Performing Arts 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 Performing Arts career pathway.

05.06 Describe technologies associated in careers within the Performing Arts career pathway.

06.0 Apply leadership and communication skills – the student will be able to:

06.01 Discuss the establishment and history of the SkillsUSA 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 project related to Arts, A/V Technology and Communication career cluster.
07.0	Describe how information technology is used in the Arts, A/V Technology and Communication career cluster – the student will be able to:
07.01	Identify information technology (IT) careers in the Arts, A/V Technology and Communication career cluster, including the responsibilities, tasks and skills they require.
07.02	Relate information technology project management concepts and terms to careers in the Arts, A/V Technology and Communication career cluster.
07.03	Manage information technology components typically used in professions of the Arts, A/V Technology and Communication career cluster.
07.04	Identify security-related ethical and legal IT issues faced by professionals in the Arts, A/V Technology and Communication 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 Arts, A/V Technology and Communication 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 Arts, A/V Technology and Communication 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)

SkillsUSA 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 Arts, A/V Technology and Communication and Career Planning
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School	
Course Number	8209360
CIP Number	148209360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, technology literacy; the importance of Arts and A/V technology; the role of science, math, reading, writing, history, and technology in the Arts and A/V; and digital media. 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
8209360	Introduction to Arts, A/V Technology and Communication and Career Planning	BUS ED 1 @2 COMM ART @7 7G COMP SCI 6 @2 MKTG 1 PRINTING @7 7G SECRETAR 7 G TC COOP ED @7 TEC ED 1@2 TV PRO TEC @7 7G VOE @7	Semester

Standards

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

- 01.0 Demonstrate an understanding of the Audio and Video Technology and Film career pathway.
- 02.0 Demonstrate an understanding of the Telecommunications career pathway.
- 03.0 Demonstrate an understanding of the Printing Technology career pathway.
- 04.0 Demonstrate an understanding of the Visual Arts career pathway.
- 05.0 Demonstrate an understanding of the Performing Arts career pathway.
- 06.0 Apply leadership and communication skills.
- 07.0 Describe how information technology is used in the Arts, A/V Technology and Communication 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 through an interest assessment that matches career and education goals.
- 15.0 Develop a career and education plan that includes short- and long-term goals, a 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 Arts, A/V Technology and Communication and Career Planning
Course Number: 8209360
Course Length: Semester

Course Description:

Beginning with a broad overview of the Arts, A/V Technology and Communication career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Arts, A/V Technology and Communication career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills as well as opportunities for hands-on activities.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Audio and Video Technology and Film career pathway – the student will be able to:
01.01	Define and use proper terminology associated with the Audio and Video Technology and Film career pathway.
01.02	Describe some of the careers available in the Audio and Video Technology and Film career pathway.
01.03	Identify common characteristics of the careers in the Audio and Video Technology and Film career pathway.
01.04	Research the history of the Audio and Video Technology and Film 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 Audio and Video Technology and Film career pathway.
01.06	Describe technologies associated in careers within the Audio and Video Technology and Film career pathway.
02.0	Demonstrate an understanding of the Telecommunications career pathway – the student will be able to:
02.01	Define and use proper terminology associated with the Telecommunications career pathway.
02.02	Describe some of the careers available in the Telecommunications career pathway.
02.03	Identify common characteristics of the careers in the Telecommunications career pathway.
02.04	Research the history of the Telecommunications 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 Telecommunications career pathway.
02.06	Describe technologies associated in careers within the Telecommunications career pathway.

03.0	Demonstrate an understanding of the Printing Technology career pathway – the student will be able to:
03.01	Define and use proper terminology associated with the Printing Technology career pathway.
03.02	Describe some of the careers available in the Printing Technology career pathway.
03.03	Identify common characteristics of the careers in the Printing Technology career pathway.
03.04	Research the history of the Printing Technology 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 Printing Technology career pathway.
03.06	Describe technologies associated in careers within the Printing Technology career pathway.
04.0	Demonstrate an understanding of the Visual Arts career pathway – the student will be able to:
04.01	Define and use proper terminology associated with the Visual Arts career pathway.
04.02	Describe some of the careers available in the Visual Arts career pathway.
04.03	Identify common characteristics of the careers in the Visual Arts career pathway.
04.04	Research the history of the Visual Arts 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 Visual Arts career pathway.
04.06	Describe technologies associated in careers within the Visual Arts career pathway.
05.0	Demonstrate an understanding of the Performing Arts career pathway – the student will be able to:
05.01	Define and use proper terminology associated with the Performing Arts career pathway.
05.02	Describe some of the careers available in the Performing Arts career pathway.
05.03	Identify common characteristics of the careers in the Performing Arts career pathway.
05.04	Research the history of the Performing Arts 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 Performing Arts career pathway.
05.06	Describe technologies associated in careers within the Performing Arts career pathway.
06.0	Apply leadership and communication skills – the student will be able to:
06.01	Discuss the establishment and history of the SkillsUSA 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 by conducting a demonstration.
06.06	Use a computer to assist in the completion of a project related to Arts, A/V Technology and Communication career cluster.
07.0	Describe how information technology is used in the Arts, A/V Technology and Communication career cluster – the student will be able to:
07.01	Identify information technology (IT) careers in the Arts, A/V Technology and Communication career cluster, including the responsibilities, tasks and skills they require.
07.02	Relate information technology project management concepts and terms to careers in the Arts, A/V Technology and Communication career cluster.
07.03	Manage information technology components typically used in professions of the Arts, A/V Technology and Communication career cluster.
07.04	Identify security-related ethical and legal IT issues faced by professionals in the Arts, A/V Technology and Communication 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 Arts, A/V Technology and Communication 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 Arts, A/V Technology and Communication career cluster.
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:	
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/post-secondary 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 post-secondary/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 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(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 A/V and Print Technology
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8260300
CIP Number	148260300M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to give students an opportunity to apply knowledge and skills related to the area of A/V and Print Technology.

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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, leadership and employability skills, career exploration, project development, and the utilization of technology. 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
8260300	Fundamentals of A/V and Print Technology	BUS ED 1@2 PRINTING @7 7G TEC ED 1 @ 2 ENG&TEC ED1@2 TV PRO TEC @7 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 A/V Technology, Film, and Printing Technology industries.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the A/V Technology, Film, and Printing Technology industries.
- 05.0 Select and use tools and equipment.
- 06.0 Develop a project related to A/V Technology, Film, and Printing Technology.
- 07.0 Utilize technology as it relates to the A/V Technology, Film, and Printing Technology industries.
- 08.0 Demonstrate the skills involved in effective resource management.
- 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 A/V and Print Technology
Course Number: 8260300
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 A/V Technology, Film, and Printing Technology industries. The content includes, but is not limited to, leadership and employability skills, career exploration, project development, and the utilization of technology.

CTE Standards and Benchmarks	
01.0	Demonstrate leadership skills – the student will be able to:
01.01	Identify the 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 planning process.
01.05	Develop a personal growth project.
02.0	Demonstrate employability skills as they relate to the A/V Technology, Film, and Printing Technology industries – the student will be able to:
02.01	Identify personal talents and abilities that can contribute to positive self-esteem and success in the workplace.
02.02	Practice teamwork skills.
02.03	Practice employability skills (e.g., time/resource management, communication, grooming/appearance).
02.04	Practice positive work ethics and identify negative work ethics.
02.05	Exhibit work expectations of an employer in the A/V Technology, Film, and Printing Technology industries.
02.06	Apply math, reading, science, and critical thinking skills as they relate to the A/V Technology, Film, and Printing Technology industries.
03.0	Demonstrate effective communication skills – the student will be able to:
03.01	Describe why communication is the basis for all relationships.

CTE Standards and Benchmarks

03.02 Distinguish between non-assertive, assertive, and aggressive communication.

03.03 Demonstrate communication skills that promote positive relationships in the workplace.

03.04 Practice active listening skills.

03.05 Demonstrate the ability to utilize conflict resolution skills through role-play.

04.0 Analyze careers in the A/V Technology, Film, and Printing Technology industries – the student will be able to:

04.01 Describe careers in the A/V Technology, Film, and Printing Technology industries.

04.02 Classify careers from entry level to professional level.

04.03 Explore entrepreneurship opportunities in the A/V Technology, Film, and Printing Technology industries.

04.04 Research and present information on an A/V Technology, Film, and Printing Technology career to include roles and responsibilities, employment opportunities and requirements for education and training.

05.0 Select and use tools and equipment – the student will be able to:

05.01 Demonstrate knowledge of tools and their functions.

05.02 Demonstrate the proper and safe use of tools and equipment.

05.03 Practice care and maintenance of tools and equipment.

06.0 Develop a project related to A/V Technology, Film, and Printing Technology – the student will be able to:

06.01 Select materials and supplies for an A/V Technology project.

06.02 Calculate the costs of a given A/V Technology project.

06.03 Interpret written directions for constructing an A/V Technology project.

06.04 Apply math skills and construct an A/V Technology project.

07.0 Utilize technology as it relates to the A/V Technology, Film, and Printing Technology industries – the student will be able to:

07.01 Identify technology utilized in the A/V Technology, Film, and Printing Technology industries.

07.02 Analyze technology trends impacting the A/V Technology, Film, and Printing Technology industries.

07.03 Utilize technology.

08.0 Demonstrate the skills involved in effective resource management – the student will be able to:

CTE Standards and Benchmarks

08.01 Identify steps of the decision-making process.

08.02 Distinguish between a need and a want.

08.03 Explain how values and goals affect decision-making.

08.04 Develop a budget and savings plan.

08.05 Analyze the relationship between resources and the attainment of lifestyle goals.

09.0 Identify components of network systems – the student will be able to:

09.01 Identify structure to access the Internet, including hardware and software components.

09.02 Identify and configure user customization features in web browsers (e.g., preferences, caching, cookies).

09.03 Recognize essential database concepts.

09.04 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.

10.02 Identify basic principles of the Domain Name System (DNS).

10.03 Identify security issues related to Internet clients.

10.04 Identify and use the principles and common applications of personal information management (PIM).

10.05 Efficiently transmit text and binary files using popular Internet services.

10.06 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)

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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: Fundamentals of Telecommunications
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8260400
CIP Number	148260400M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, the development of leadership skills, communication skills, and employability skills; resource management; exploration of Arts and A/V careers; the science and technology of transmitting information electronically by wires or radio signals with integrated encoding and decoding equipment.

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
8260400	Fundamentals of Telecommunications	COMP SVC 7G ELECTRICAL @7 7G ELECTRONIC @ 7 7G TELCOM 7G TV PRO TEC @7 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 Telecommunications industry.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the Telecommunications industry.
- 05.0 Select and use tools and equipment.
- 06.0 Develop a project related to Telecommunications.
- 07.0 Utilize technology as it relates to the Telecommunications industry.
- 08.0 Demonstrate the skills involved in effective resource management.
- 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 Telecommunications
Course Number: 8260400
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 Telecommunications.

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 planning process.
01.05	Develop a personal growth project.
02.0	Demonstrate employability skills as they relate to the Telecommunications 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 workplace.
02.02	Practice teamwork skills.
02.03	Practice employability skills.
02.04	Practice positive work ethics and identify negative work ethics.
02.05	Exhibit work expectations of an employer in the Telecommunications industry.
02.06	Apply math, reading, science, and critical thinking skills as they relate to the Telecommunications industry.
03.0	Demonstrate effective communication skills – the student will be able to:

CTE Standards and Benchmarks

03.01 Describe why communication is the basis for all relationships.

03.02 Distinguish between non-assertive, assertive, and aggressive communication.

03.03 Demonstrate communication skills that promote positive relationships in the work place.

03.04 Practice active listening skills.

03.05 Utilize conflict resolution skills.

04.0 Analyze careers in the Telecommunications industry – the student will be able to:

04.01 Describe careers in the Telecommunications industry.

04.02 Classify careers from entry level to professional level.

04.03 Explore entrepreneurship opportunities in the Telecommunications industry

04.04 Research and present information on a Telecommunications career to include roles and responsibilities, employment opportunities and requirements for education and training.

05.0 Select and use tools and equipment – the student will be able to:

05.01 Identify and select the appropriate tool for the assignment.

05.02 Demonstrate the proper and safe use of tools and equipment.

05.03 Practice care and maintenance of tools and equipment.

06.0 Develop a project related to Telecommunications – the student will be able to:

06.01 Apply the principals and elements of design in selecting a Telecommunications project.

06.02 Interpret written directions for assembling/constructing a Telecommunications project.

06.03 Apply math skills and construct a Telecommunications project.

07.0 Utilize technology as it relates to the Telecommunications industry – the student will be able to:

07.01 Identify technology utilized in the Telecommunications industry.

07.02 Analyze technology trends impacting the Telecommunications industry.

07.03 Utilize technology.

08.0 Demonstrate the skills involved in effective resource management – the student will be able to:

CTE Standards and Benchmarks

08.01 Identify steps of the decision-making process.

08.02 Distinguish between a need and a want.

08.03 Explain how values and goals affect decision-making.

08.04 Develop a budget and savings plan.

08.05 Analyze the relationship between resources and the attainment of lifestyle goals.

09.0 Identify components of network systems – the student will be able to:

09.01 Identify structure to access the Internet, including hardware and software components.

09.02 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.

09.03 Recognize essential database concepts.

09.04 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.

10.02 Identify basic principles of the Domain Name System (DNS).

10.03 Identify security issues related to Internet clients.

10.04 Identify and use principles of personal information management (PIM), including common applications.

10.05 Efficiently transmit text and binary files using popular Internet services.

10.06 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)

SkillsUSA 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 Visual and Performing Arts
Course Type: Orientation/Exploratory
Career Cluster: Arts, A/V Technology and Communication

Secondary – Middle School

Course Number	8260500
CIP Number	148260500M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Arts, A/V Technology and Communication career cluster. The content includes, but is not limited to, topics pertaining to the Visual Arts, Performing Arts, Journalism, and Broadcasting industries. 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
8260500	Fundamentals of Visual and Performing Arts	BUS DP @7 %G BUS ED 1 @2 CLERICAL @7 7G COMM ART @7 7G COMP SCI 6 @2 ELECT DP @7 %7 %G GRAPH ARTS 4 JOURNALISM 1 MG ENG C MKTG 1 PHOTOG @7 7G PRINTING @7 7G SECRETAR 7 G TEC ED 1@2 ENG&TEC ED1@2 TEC ELEC @7 TV PRO TEC @7 7G VOE @7	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 Visual Arts, Performing Arts, Journalism and Broadcasting industries.
- 03.0 Demonstrate effective communication skills.
- 04.0 Analyze careers in the Visual Arts, Performing Arts, Journalism and Broadcasting industries.
- 05.0 Select and use tools and equipment.
- 06.0 Develop a project related to Visual Arts, Performing Arts, Journalism and/or Broadcasting.
- 07.0 Utilize technology as it relates to the Visual Arts, Performing Arts, Journalism and Broadcasting industries.
- 08.0 Demonstrate the skills involved in effective resource management.

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Visual and Performing Arts
Course Number: 8260500
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 Visual Arts, Performing Arts, Journalism and Broadcasting industries.

CTE Standards and Benchmarks	
01.0	Demonstrate leadership skills – the student will be able to:
01.01	Identify the 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 planning process.
01.05	Develop a personal growth project.
02.0	Demonstrate employability skills as they relate to the Visual Arts, Performing Arts, Journalism and Broadcasting industries – the student will be able to:
02.01	Identify personal talents and abilities that can contribute to positive self-esteem and success in the workplace.
02.02	Practice teamwork skills.
02.03	Practice employability skills.
02.04	Practice positive work ethics and identify negative work ethics.
02.05	Identify the work expectations of an employer in each of the specified industries.
02.06	Apply core subjects and/or STEM and critical thinking skills as they relate to the specified industries.
03.0	Demonstrate effective communication skills – the student will be able to:
03.01	Describe how communication forms the basis for all relationships.

CTE Standards and Benchmarks

03.02 Distinguish between non-assertive, assertive, and aggressive communication.

03.03 Demonstrate communication skills that promote positive relationships in the workplace.

03.04 Practice active listening skills.

03.05 Utilize conflict resolution skills.

04.0 Analyze careers in the Visual Arts, Performing Arts, Journalism and Broadcasting industries – the student will be able to:

04.01 Identify careers in the Visual Arts, Performing Arts, Journalism and Broadcasting industries.

04.02 Classify careers from entry level to professional level.

04.03 Explore entrepreneurship opportunities in the specified industries.

04.04 Research and present information on an industry-related career; include roles and responsibilities, employment opportunities and the requirements for education and training.

05.0 Select and use tools and equipment – the student will be able to:

05.01 Identify and select the appropriate tool for the assignment.

05.02 Demonstrate the proper and safe use of tools and equipment.

05.03 Practice care and maintenance of tools and equipment.

06.0 Develop a project related to Visual Arts, Performing Arts, Journalism and/or Broadcasting – the student will be able to:

06.01 Select materials and supplies for a Visual Arts, Performing Arts, Journalism and Broadcasting project.

06.02 Plan a Visual Arts, Performing Arts, Journalism or Broadcasting project; apply math skills, calculate costs for the project, and construct the project.

06.03 Interpret written directions for constructing a Visual Arts, Performing Arts, Journalism and Broadcasting project.

07.0 Utilize technology as it relates to the Visual Arts, Performing Arts, Journalism and Broadcasting industries – the student will be able to:

07.01 Identify technology utilized in Visual Arts, Performing Arts, Journalism and Broadcasting.

07.02 Analyze technology trends impacting the specified industries.

07.03 Utilize technology related to the specified industries.

08.0 Demonstrate the skills involved in effective resource management – the student will be able to:

08.01 Identify steps of the decision-making process.

CTE Standards and Benchmarks

08.02 Distinguish between a need and a want.

08.03 Explain how values and goals affect decisions.

08.04 Develop a budget and savings plan.

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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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 Business Management and Administration
Course Type: Orientation/Exploratory
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8370350
CIP Number	148370350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to fundamental knowledge and skills related to business functions in the Business Management and Administration 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
8370350	Introduction to Business Management and Administration	BUS ED 1 @2 TC COOP ED @7 VOE @7	Semester

Standards

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

- 01.0 Demonstrate an understanding of the General Management career pathway.
- 02.0 Demonstrate an understanding of the Business Information Management career pathway.
- 03.0 Demonstrate an understanding of the Human Resources Management career pathway.
- 04.0 Demonstrate an understanding of the Operations Management career pathway.
- 05.0 Demonstrate an understanding of the Administrative Support career pathway.
- 06.0 Demonstrate an understanding of the Accounting career pathway.
- 07.0 Apply leadership and communication skills.
- 08.0 Describe how information technology is used in the Business Management and Administration career cluster.
- 09.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Business Management and Administration
Course Number: 8370350
Course Length: Semester

Course Description:

Beginning with a broad overview of the Business Management and Administration career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Business Management and 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 General Management career pathway. The student will be able to:
01.01	Define and use proper terminology associated with the General Management career pathway.
01.02	Describe some of the careers available in the General Management career pathway.
01.03	Identify common characteristics of the careers in the General Management career pathway.
01.04	Research the history of the General Management 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 General Management career pathway.
01.06	Describe technologies associated in careers within the General Management career pathway.
02.0	Demonstrate an understanding of the Business Information Management career pathway. The student will be able to:
02.01	Define and use proper terminology associated with the Business Information Management career pathway.
02.02	Describe some of the careers available in the Business Information Management career pathway.
02.03	Identify common characteristics of the careers in the Business Information Management career pathway.
02.04	Research the history of the Business Information Management career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Business Information Management career pathway.

CTE Standards and Benchmarks

02.06 Describe technologies associated in careers within the Business Information Management career pathway.

03.0 Demonstrate an understanding of the Human Resources Management career pathway. The student will be able to:

03.01 Define and use proper terminology associated with the Human Resources Management career pathway.

03.02 Describe some of the careers available in the Human Resources Management career pathway.

03.03 Identify common characteristics of the careers in the Human Resources Management career pathway.

03.04 Research the history of the Human Resources Management career pathway and describe how the careers have evolved and impacted society.

03.05 Identify skills required to successfully enter any career in the Human Resources Management career pathway.

03.06 Describe technologies associated in careers within the Human Resources Management career pathway.

04.0 Demonstrate an understanding of the Operations Management career pathway. The student will be able to:

04.01 Define and use proper terminology associated with the Operations Management career pathway.

04.02 Describe some of the careers available in the Operations Management career pathway.

04.03 Identify common characteristics of the careers in the Operations Management career pathway.

04.04 Research the history of the Operations Management career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Operations Management career pathway.

04.06 Describe technologies associated in careers within the Operations Management career pathway.

05.0 Demonstrate an understanding of the Administrative Support career pathway. The student will be able to:

05.01 Define and use proper terminology associated with the Administrative Support career pathway.

05.02 Describe some of the careers available in the Administrative Support career pathway.

05.03 Identify common characteristics of the careers in the Administrative Support career pathway.

05.04 Research the history of the Administrative Support career pathway and describe how the careers have evolved and impacted society.

05.05 Identify skills required to successfully enter any career in the Administrative Support career pathway.

05.06 Describe technologies associated in careers within the Administrative Support career pathway.

CTE Standards and Benchmarks

06.0 Demonstrate an understanding of the Accounting career pathway. The student will be able to:

06.01 Define and use proper terminology associated with the Accounting career pathway.

06.02 Describe some of the careers available in the Accounting career pathway.

06.03 Identify common characteristics of the careers in the Accounting career pathway.

06.04 Research the history of the Accounting career pathway and describe how the careers have evolved and impacted society.

06.05 Identify skills required to successfully enter any career in the Accounting career pathway.

06.06 Describe technologies associated in careers within the Accounting career pathway.

07.0 Apply leadership and communication skills. The student will be able to:

07.01 Discuss the establishment and history of the FBLA and BPA organizations.

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 Business Management and Administration career cluster.

08.0 Describe how information technology is used in the Business Management and Administration career cluster. The student will be able to:

08.01 Identify information technology (IT) careers in the Business Management and Administration career cluster, including the responsibilities, tasks and skills they require.

08.02 Relate information technology project management concepts and terms to careers in the Business Management and Administration career cluster.

08.03 Manage information technology components typically used in professions of the Business Management and Administration career cluster.

08.04 Identify security-related ethical and legal IT issues faced by professionals in the Business Management and Administration 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 Business Management and Administration career cluster.

CTE Standards and Benchmarks

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 Business Management and Administration 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, including access to computers and appropriate software.

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)

Future Business Leaders of America (FBLA) and Business Professional of America (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: Introduction to Business Management and Administration and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Business Management and Administration

Secondary – Middle School

Course Number	8370360
CIP Number	148370360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 Business Management and Administration career cluster. The content includes but is not limited to fundamental knowledge and skills related to business functions in the Business Management and Administration 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.

Course/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
8370360	Introduction to Business Management and Administration and Career Planning	BUS ED 1 @2 TC COOP ED @7 VOE @7	Semester

Florida Standards for English Language Development (ELD)

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

English Language Development (ELD) Standards Special Notes:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills.

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

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

Standards

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

- 01.0 Demonstrate an understanding of the General Management career pathway.
- 02.0 Demonstrate an understanding of the Business Information Management career pathway.
- 03.0 Demonstrate an understanding of the Human Resources Management career pathway.
- 04.0 Demonstrate an understanding of the Operations Management career pathway.
- 05.0 Demonstrate an understanding of the Administrative Support career pathway.
- 06.0 Demonstrate an understanding of the Accounting career pathway.
- 07.0 Apply leadership and communication skills.
- 08.0 Describe how information technology is used in the Business Management and Administration 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 Business, Management and Administration and Career Planning
Course Number: 8370360
Course Length: Semester

Course Description:

Beginning with a broad overview of the Business Management and Administration career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Business Management and 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 General Management career pathway. The student will be able to:
01.01	Define and use proper terminology associated with the General Management career pathway.
01.02	Describe some of the careers available in the General Management career pathway.
01.03	Identify common characteristics of the careers in the General Management career pathway.
01.04	Research the history of the General Management 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 General Management career pathway.
01.06	Describe technologies associated in careers within the General Management career pathway.
02.0	Demonstrate an understanding of the Business Information Management career pathway. The student will be able to:
02.01	Define and use proper terminology associated with the Business Information Management career pathway.
02.02	Describe some of the careers available in the Business Information Management career pathway.
02.03	Identify common characteristics of the careers in the Business Information Management career pathway.
02.04	Research the history of the Business Information Management career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Business Information Management career pathway.

CTE Standards and Benchmarks

02.06 Describe technologies associated in careers within the Business Information Management career pathway.

03.0 Demonstrate an understanding of the Human Resources Management career pathway. The student will be able to:

03.01 Define and use proper terminology associated with the Human Resources Management career pathway.

03.02 Describe some of the careers available in the Human Resources Management career pathway.

03.03 Identify common characteristics of the careers in the Human Resources Management career pathway.

03.04 Research the history of the Human Resources Management career pathway and describe how the careers have evolved and impacted society.

03.05 Identify skills required to successfully enter any career in the Human Resources Management career pathway.

03.06 Describe technologies associated in careers within the Human Resources Management career pathway.

04.0 Demonstrate an understanding of the Operations Management career pathway. The student will be able to:

04.01 Define and use proper terminology associated with the Operations Management career pathway.

04.02 Describe some of the careers available in the Operations Management career pathway.

04.03 Identify common characteristics of the careers in the Operations Management career pathway.

04.04 Research the history of the Operations Management career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Operations Management career pathway.

04.06 Describe technologies associated in careers within the Operations Management career pathway.

05.0 Demonstrate an understanding of the Administrative Support career pathway. The student will be able to:

05.01 Define and use proper terminology associated with the Administrative Support career pathway.

05.02 Describe some of the careers available in the Administrative Support career pathway.

05.03 Identify common characteristics of the careers in the Administrative Support career pathway.

05.04 Research the history of the Administrative Support career pathway and describe how the careers have evolved and impacted society.

05.05 Identify skills required to successfully enter any career in the Administrative Support career pathway.

05.06 Describe technologies associated in careers within the Administrative Support career pathway.

CTE Standards and Benchmarks

06.0 Demonstrate an understanding of the Accounting career pathway. The student will be able to:

06.01 Define and use proper terminology associated with the Accounting career pathway.

06.02 Describe some of the careers available in the Accounting career pathway.

06.03 Identify common characteristics of the careers in the Accounting career pathway.

06.04 Research the history of the Accounting career pathway and describe how the careers have evolved and impacted society.

06.05 Identify skills required to successfully enter any career in the Accounting career pathway.

06.06 Describe technologies associated in careers within the Accounting career pathway.

07.0 Apply leadership and communication skills. The student will be able to:

07.01 Discuss the establishment and history of the FBLA and BPA organizations.

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 Business Management and Administration career cluster.

08.0 Describe how information technology is used in the Business Management and Administration career cluster. The student will be able to:

08.01 Identify information technology (IT) careers in the Business Management and Administration career cluster, including the responsibilities, tasks and skills they require.

08.02 Relate information technology project management concepts and terms to careers in the Business Management and Administration career cluster.

08.03 Manage information technology components typically used in professions of the Business Management and Administration career cluster.

08.04 Identify security-related ethical and legal IT issues faced by professionals in the Business Management and Administration 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 Business Management and Administration career cluster.

CTE Standards and Benchmarks

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 Business Management and Administration 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:

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, including access to computers and appropriate software.

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)

Future Business Leaders of America (FBLA) and Business Professional of America (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: Orientation to Health Science Professions
Course Type: Orientation/Exploratory
Career Cluster: Health Science

Secondary – Middle School

Course Number	8400110
CIP Number	03179999OR
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the Course Structure section.
CTSO	HOSA: Future Health Professionals

Purpose

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

The content includes but is not limited to basic information about the kinds of jobs and workers involved the various career paths, financial rewards, occupational hazards, and educational requirements. Information concerning the practices for promoting good health is included

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

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

Course Structure

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

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

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

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400110	Orientation to Health Science Professions	ANY HEALTH OCCUP G *(See DOE approved list) HEALTH 6	Semester

Standards

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

- 01.0 Recognize progress in health care service.
- 02.0 Demonstrate an awareness of health careers and related employability skills.
- 03.0 Recognize basic communication skills in the healthcare setting.
- 04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
- 05.0 Demonstrate an understanding of principles of wellness and disease.
- 06.0 Perform basic health care skills.
- 07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

**Florida Department of Education
Student Performance Standards**

Course Title: Orientation to Health Science Professions
Course Number: 8400110
Course Length: Semester

CTE Standards and Benchmarks	
01.0	Recognize progress in health care service. – The student will be able to:
01.01	Compare medical progress from ancient times to the present. For example: surgical techniques, anesthesia, treatment and equipment.
01.02	Discuss health care leaders who brought about change and progress from ancient times to the present. For example: Hippocrates, Edward Jenner, Joseph Lister, Alexander Fleming, Marie Curie, and Clara Barton.
01.03	Demonstrate knowledge of how advances in science have impacted beliefs and practices from ancient times to the present.
02.0	Demonstrate an awareness of health careers and related employability skills. – The student will be able to:
02.01	Complete a career inventory to match student interest with potential healthcare careers.
02.02	List employability/soft skills and characteristics needed to be successful in the workplace. For Example: punctuality, dependability, and communication skills.
02.03	Identify the characteristics of healthcare professionals.
02.04	Identify several professions in each of the Health Science Career Pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
02.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, and salary range.
03.0	Recognize basic communication skills in the healthcare setting. – The student will be able to:
03.01	Demonstrate an understanding of interpersonal communication skills such as active listening, verbal, non-verbal and written language.
03.02	Demonstrate the ability to break medical terms into their word parts.
03.03	Discuss common abbreviations and symbols used in healthcare professions.
03.04	Identify technology used for communication in healthcare professions and proper etiquette for its' use.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. – The student will be able to:

CTE Standards and Benchmarks

04.01	Describe the importance of why accurate calculations and effective problem solving skills are required.
04.02	Calculate mathematical problems and measurements related to health care.
04.03	Convert common weights, measure, and volumes to metric as applied in the health care setting.
04.04	Accurately tell time using both standard and international/military time formats.
05.0	Demonstrate an understanding of principles of wellness and disease. – The student will be able to:
05.01	Describe how cultural and individual differences relate to wellness and quality of life and how these differences impact health problems of society.
05.02	Demonstrate an understanding of the risk factors that contribute to illness.
05.03	Identify consequences of substance abuse and high risk behaviors.
05.04	Describe strategies for prevention of diseases including health screenings and examinations.
05.05	Explain basic concepts of positive self-image, body and mental wellness and the effect stress has on both.
05.06	Explore the need for proper nutrition and water intake to maintain wellness.
06.0	Perform basic health care skills. – The student will be able to:
06.01	Measure and record (graph) height and weight.
06.02	Measure and record temperature, pulse, and respiration (TPR).
06.03	Demonstrate medical aseptic technique by using proper hand washing skills.
06.04	Demonstrate hands-only CPR.
07.0	Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting. – The student will be able to:
07.01	Recognize safety concerns related to the practice of health care.
07.02	Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.).
07.03	Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.

Additional Information

Laboratory Activities

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

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.

Special projects that are related to occupational clusters are provided, including making dental molds, designing eye glasses, fingerprinting, and role playing activities of daily living as a handicapped individual, developing an emergency evacuation plan for their own home, menu planning, and visualizing x-rays. Team teaching and integration of the curriculum with English, Math and Science is encouraged. Guest speakers from industry make an important contribution to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

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

Accommodations

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

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

Florida Department of Education
Curriculum Framework

Course Title: Exploration of Health Science Professions and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Health Science

Secondary – Middle School

Course Number	8400210
CIP Number	03179999CE
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster. The content includes but is not limited to exploratory activities relating to all health occupational clusters. The course also includes an introduction to medical ethics, consumerism, and characteristics of health care workers, community health agencies and basic computer literacy.

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

The purpose of this course is to give students initial exposure to the skills and attitudes associated with a broad range of occupations relating to careers in health, including job requirements and tasks performed, to assist students in making informed decisions regarding their future academic and occupational goals.

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

Course Structure

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

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

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

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400210	Exploration of Health Science Professions and Career Planning	ANY HEALTH OCCUP G *(See DOE approved list) FAM CON SC 1 HEALTH 6 Any Field When Certificate Reflects Bachelor's Degree or Higher	Semester

Standards

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

- 01.0 Demonstrate a well-rounded understanding of healthcare professions.
- 02.0 Demonstrate an understanding of the importance of legal and ethical behavior related to health care.
- 03.0 Perform basic communication skills in the healthcare setting.
- 04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
- 05.0 Apply scientific principles to the health care field.
- 06.0 Perform basic health care skills.
- 07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

Listed below are the 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 through an interest assessment that match career and education goals.
- 14.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
- 15.0 Demonstrate knowledge of technology and its application in career fields/clusters.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Health Science Professions and Career Planning
Course Number: 8400210
Course Length: Semester

CTE Standards and Benchmarks	
01.0	Demonstrate a well-rounded understanding of healthcare professions. – The student will be able to:
01.01	Explore the major scientific advancements that have contributed to the evolution of healthcare.
01.02	Research contributions made in the field of medical science and their impact on the health care field.
01.03	Identify types of education and training levels (OJT, HSTE, AA, BS/BA, MS, and Doctoral) as related to health careers.
01.04	Compare and contrast the health science career pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
01.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, salary range, educational requirements, and job outlook.
01.06	Research and describe a healthcare profession of interest identified through a career inventory assessment.
02.0	Demonstrate an understanding of the importance of legal and ethical behavior related to health care. – The student will be able to:
02.01	Identify responsibilities in maintaining ethical standards, confidentiality, and the patient's rights.
02.02	Identify and define terms related to the legal and ethical aspects of the health care industry. For example: malpractice, negligence, invasion of privacy, quackery, ethics and law, Patients' Bill of Rights, licensure.
03.0	Perform basic communication skills in the healthcare setting. – The student will be able to:
03.01	Demonstrate interpersonal communication skills such as active listening, verbal, non-verbal and written language in the health care setting.
03.02	Identify technology used for communication in healthcare professions and proper etiquette for its' use.
03.03	Demonstrate use of medical terminology and abbreviations associated with healthcare professions.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. – The student will be able to:
04.01	Analyze case studies or current events where adverse consequences resulted from mathematical medical error.

CTE Standards and Benchmarks

04.02	Convert common weights, measure, and volumes to metric as applied in the health care setting.
04.03	Accurately identify and perform appropriate numeric procedures with problems found in numeric, symbolic, or word form as they relate to the occupations.
04.04	Accurately tell time using both standard and international/military time formats.
05.0	Apply scientific principles to the health care field. – The student will be able to:
05.01	Identify the overall organization of the human body.
05.02	Describe the basic structure and function of the body systems of the human body.
05.03	Describe how the systems of the human body work together to maintain homeostasis.
05.04	Describe mechanisms of disease transmission, the Chain of Infection, prevention, and standard precautions.
06.0	Perform basic health care skills. – The student will be able to:
06.01	Measure and record (graph) height and weight.
06.02	Measure and record temperature, pulse, blood pressure, and respiration while recognizing the normal ranges for each.
06.03	Demonstrate medical aseptic technique by hand washing, gloving and application of personal protective equipment (PPE).
06.04	Demonstrate basic first aid skills (i.e. bleeding, fractures, and musculoskeletal emergencies).
06.05	Demonstrate Cardiopulmonary Resuscitation (CPR) and care for a choking victim.
06.06	Demonstrate basic skills used within the healthcare professions may include the following:
06.06.01	Visualizing X-rays
06.06.02	Conduct vision testing (Snellen chart, peripheral vision, color blindness)
06.06.03	Conduct basic hearing test
06.06.04	Measure respiratory capacity/output
06.06.05	Range-of-Motion exercises
06.06.06	Conduct simulated ABO blood-typing
07.0	Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting. – The student will be able to:
07.01	Recognize safety concerns related to the practice of health care.
07.02	Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.
07.03	Identify poisons and hazardous materials to include the use and interpretation of a Safety Data Sheet (SDS) form.

CTE Standards and Benchmarks

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|-------|---|
| 07.04 | Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.). |
| 07.05 | Explore basic information on the dangers of blood borne diseases in healthcare including but not limited to HIV/AIDS and Hepatitis B. |
| 07.06 | Perform proper body mechanics to prevent self and patient injuries. |

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

The student will be able to:

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

Additional Information

Laboratory Activities

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

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.

Special projects that are related to each occupational cluster are provided, including role playing activities related to specific careers, visualizing x-rays and crutch-walking, operating the microscope, and specific lab procedures. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry and related field trips make important contributions to the effectiveness of this course.

Career Planning

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: Exploration of Health Science Professions
Course Type: Orientation/Exploratory
Career Cluster: Health Science

Secondary – Middle School

Course Number	8400310
CIP Number	03179999EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	HOSA: Future Health Professionals

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Health Science career cluster. The content includes but is not limited to exploratory activities relating to all health occupational clusters. The course also includes an introduction to medical ethics, consumerism, and characteristics of health care workers, community health agencies and basic computer literacy.

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

The purpose of this course is to give students initial exposure to the skills and attitudes associated with a broad range of occupations relating to careers in health, including job requirements and tasks performed, to assist students in making informed decisions regarding their future academic and occupational goals.

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

Course Structure

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

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

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

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8400310	Exploration of Health Science Professions	ANY HEALTH OCCUP G *(See DOE approved list) FAM CON SC 1 HEALTH 6 Any Field When Certificate Reflects Bachelor's Degree or Higher	Semester

Standards

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

- 01.0 Demonstrate a well-rounded understanding of healthcare professions.
- 02.0 Demonstrate an understanding of the importance of legal and ethical behavior related to health care.
- 03.0 Perform basic communication skills in the healthcare setting.
- 04.0 Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker.
- 05.0 Apply scientific principles to the health care field.
- 06.0 Perform basic health care skills.
- 07.0 Demonstrate occupational safety skills related to the employer, employee and the patient in the healthcare setting.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Health Science Professions
Course Number: 8400310
Course Length: Semester

CTE Standards and Benchmarks	
01.0	Demonstrate a well-rounded understanding of healthcare professions. – The student will be able to:
01.01	Explore the major scientific advancements that have contributed to the evolution of healthcare.
01.02	Research contributions made in the field of medical science and their impact on the health care field.
01.03	Identify types of education and training levels (OJT, HSTE, AA, BS/BA, MS, and Doctoral) as related to health careers.
01.04	Compare and contrast the health science career pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, Bio-technology Research and Development.
01.05	List the advantages and disadvantages of one occupation in each pathway including the following factors; job description, career pathway/area of interest, salary range, educational requirements and job outlook.
01.06	Research and describe a healthcare profession of interest identified through a career inventory assessment.
02.0	Demonstrate an understanding of the importance of legal and ethical behavior related to health care. – The student will be able to:
02.01	Identify responsibilities in maintaining ethical standards, confidentiality, and the patient's rights.
02.02	Identify and define terms related to the legal and ethical aspects of the health care industry. For example: malpractice, negligence, invasion of privacy, quackery, ethics and law, Patients' Bill of Rights, licensure.
03.0	Perform basic communication skills in the healthcare setting. – The student will be able to:
03.01	Demonstrate interpersonal communication skills such as active listening, verbal, non-verbal and written language in the health care setting.
03.02	Identify technology used for communication in healthcare professions and proper etiquette for its' use.
03.03	Demonstrate use of medical terminology and abbreviations associated with healthcare professions.
04.0	Perform basic mathematical calculations and demonstrate problem solving skills used by the health care worker. – The student will be able to:
04.01	Analyze case studies or current events where adverse consequences resulted from mathematical medical error.

CTE Standards and Benchmarks

04.02	Convert common weights, measure, and volumes to metric as applied in the health care setting.
04.03	Accurately identify and perform appropriate numeric procedures with problems found in numeric, symbolic, or word form as they relate to the occupations.
04.04	Accurately tell time using both standard and international/military time formats.
05.0	Apply scientific principles to the health care field. – The student will be able to:
05.01	Identify the overall organization of the human body.
05.02	Describe the basic structure and function of the body systems of the human body.
05.03	Describe how the systems of the human body work together to maintain homeostasis.
05.04	Describe mechanisms of disease transmission, the Chain of Infection, prevention and standard precautions.
06.0	Perform basic health care skills. – The student will be able to:
06.01	Measure and record (graph) height and weight.
06.02	Measure and record temperature, pulse, blood pressure and respiration while recognizing the normal ranges for each.
06.03	Demonstrate medical aseptic technique by hand washing, gloving and application of personal protective equipment (PPE).
06.04	Demonstrate basic first aid skills (i.e. bleeding, fractures, and musculoskeletal emergencies).
06.05	Demonstrate Cardiopulmonary Resuscitation (CPR) and care for a choking victim.
06.06	Demonstrate basic skills used within the healthcare professions may include the following:
06.06.01	Visualizing X-rays
06.06.02	Conduct vision testing (Snellen chart, peripheral vision, color blindness)
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06.06.04	Measure respiratory capacity/output
06.06.05	Range-of-Motion exercises
06.06.06	Conduct simulated ABO blood-typing
07.0	Demonstrate occupational safety skills related to the employer, employee, and the patient in the healthcare setting. – The student will be able to:
07.01	Recognize safety concerns related to the practice of health care.
07.02	Demonstrate safety habits that will prevent injury to health care workers, co-workers, and patients including proper use personal protective equipment (PPE) and infection control practices.
07.03	Identify poisons and hazardous materials to include the use and interpretation of a Safety Data Sheet (SDS) form.

CTE Standards and Benchmarks

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|-------|---|
| 07.04 | Demonstrate an understanding for the importance of fire safety practices including prevention, evacuation plans (R.A.C.E.) and the use of a fire extinguisher (P.A.S.S.). |
| 07.05 | Explore basic information on the dangers of blood borne diseases in healthcare including but not limited to HIV/AIDS and Hepatitis B. |
| 07.06 | Perform proper body mechanics to prevent self and patient injuries. |

Additional Information

Laboratory Activities

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

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.

Special projects that are related to each occupational cluster are provided, including role playing activities related to specific careers, visualizing x-rays and crutch-walking, operating the microscope, and specific lab procedures. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry and related field trips make important contributions to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

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

Accommodations

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

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

Florida Department of Education
Curriculum Framework

Course Title: Fundamentals of Careers in Education
Course Type: Orientation/Exploratory
Career Cluster: Education & Training

Secondary – Middle School

Program Number	8409100
CIP Number	0713129905
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 Education & Training 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 field of education; the importance of health and safety in the learning environment; children’s nutritional needs; developmental stages of children and appropriate learning activities; observation of children; and the use of technology in education-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 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
8409100	Fundamentals of Careers in Education	FAM CON SCI	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 Demonstrate skills for success.
- 02.0 Analyze careers in the field of education.
- 03.0 Demonstrate career decisions as they relate to the teaching profession.
- 04.0 Demonstrate the skills involved in effective resource management.
- 05.0 Practice health and safety in the learning environment.
- 06.0 Analyze the nutritional needs of children.
- 07.0 Analyze physical, emotional, intellectual and social development of children.
- 08.0 Exhibit best practices for learning environments.
- 09.0 Demonstrate effective communication skills.
- 10.0 Recognize age-appropriate learning activities.
- 11.0 Identify and understand basic observation techniques and how they are used to evaluate children's developmental milestones.
- 12.0 Utilize technology as it relates to the field of education.
- 13.0 Describe and use communication features of information technology.

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Careers in Education
Course Number: 8409100
Course Length: Semester

Course Description:

This middle school course covers leadership, employability, communication, and resource management skills. Students will research careers in the field of education. Students will learn the importance of health and safety in the learning environment, all stages of the developing child, appropriate learning activities, and techniques for observing children.

CTE Standards and Benchmarks	
01.01	Identify different types of professional and community service organizations, including career and technical student organizations that relate to the child and education.
01.02	Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.03	Develop human relationship skills such as a positive work ethic, positive attitudes towards others, and manners in the workplace.
01.04	Identify and utilize the planning process to accomplish personal and professional goals.
02.0	Analyze careers in the field of education. The student will be able to:
02.01	Describe available careers in education.
02.02	Classify careers from entry level to professional level.
02.03	Explore entrepreneurship opportunities in the field of education.
02.04	Research and present information on careers in Education to include the roles and responsibilities, opportunities for employment, and requirements for training and certification.
03.0	Demonstrate career decisions as they relate to the teaching profession. The student will be able to
03.01	Demonstrate employability skills as they relate to teaching.
03.02	Identify personal interests, aptitudes, talents and abilities that can contribute to positive self-esteem and success in the work place.
03.03	Practice teamwork skills.

CTE Standards and Benchmarks

03.04 Practice positive work ethics and identify negative work ethics, including influences of social media on job performance.

03.05 Apply math, reading, science, and critical thinking skills as they relate to the field of education.

03.06 Describe and utilize different job search skills available

03.07 Develop short-term and long-term goals for personal and professional achievement.

04.0 Demonstrate the skills involved in effective resource management. The student will be able to:

04.01 Identify steps of the decision-making process.

04.02 Distinguish between a need and a want.

04.03 Explain how values and goals affect decisions.

04.04 Develop a budget and savings plan.

05.0 Practice health and safety in the learning environment. The student will be able to:

05.01 Describe the indicators of a healthy child.

05.02 Recognize the indicators of childhood illnesses, their causes and preventive measures.

05.03 Identify common indicators of child abuse and neglect.

05.04 Research laws that relate to reporting suspected child abuse.

05.05 List community agencies that provide help to abused children.

05.06 Identify safety guidelines to follow when caring for children.

05.07 Create a response plan for emergency situations.

05.08 Research available certifications for babysitters.

06.0 Analyze the nutritional needs of children. The student will be able to:

06.01 Identify nutritional needs of children.

06.02 Research foods that may be harmful to children, i.e. food allergies.

06.03 Research long term effects of childhood obesity and poor nutrition.

CTE Standards and Benchmarks

06.04 Plan and prepare nutritious snacks for children using appropriate safety and sanitation procedures.

07.0 Analyze the physical, emotional, intellectual and social development of children. The student will be able to:

07.01 Describe common physical, emotional, intellectual and social milestones for children.

07.02 Create and demonstrate an age appropriate activity to promote a child's growth and development.

07.03 Research and demonstrate adaptations appropriate for a "special needs" child.

08.0 Exhibit best practices for learning environments. The student will be able to:

08.01 Arrange learning centers that provide for a child's exploration, discovery and development.

08.02 Develop guidelines for establishing activities, routines and transitions for children.

09.0 Demonstrate effective communication skills. The student will be able to:

09.01 Describe why communication is the basis for all relationships.

09.02 Distinguish between non-assertive, assertive, and aggressive communication.

09.03 Demonstrate communication skills that promote positive relationships with children.

09.04 Define and explain appropriate discipline and guidance procedures for children.

09.05 Practice active listening skills.

09.06 Utilize conflict resolution skills.

10.0 Recognize age-appropriate learning activities. The student will be able to:

10.01 Identify age-appropriate learning activities.

10.02 Evaluate games, equipment, activities, books, and play materials for age appropriateness.

11.0 Identify and understand basic observation techniques and how they are used to evaluate children's developmental milestones. The student will be able to:

11.01 Compare and contrast basic observation techniques in relation to the learning environment.

12.0 Utilize technology as it relates to the field of education. The student will be able to:

12.01 Identify technology utilized in the field of education.

CTE Standards and Benchmarks

12.02 Analyze technology trends impacting education.

12.03 Apply technology for efficient operation of the learning environment.

13.0 Describe and use communication features of information technology. The student will be able to:

13.01 Identify and categorize usage of different forms of storage devices and backup media.

13.02 Recognize essential database concepts such as bookmarking, web browsers, caching and cookies.

13.03 Identify and describe types of file systems and classify common file extensions based on software application programs used in the workplace environment.

13.04 Define important internet communications protocols and their roles in delivering basic Internet services.

13.05 Identify security issues related to Internet clients including ethical issues using social media.

13.06 Identify and use principles of Personal Information Management (PIM), including common applications.

13.07 Efficiently transmit text and attachments using email systems used in the workplace environment.

13.08 Conduct a webcast and related services.

13.09 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)

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 Careers in Education and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Education & Training

Secondary – Middle School

Program Number	8409200
CIP Number	0713129906
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 Education & Training 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 field of education; the importance of health and safety in the learning environment; children’s nutritional needs; developmental stages of children and appropriate learning activities; observation of children; and the use of technology in education-related careers. 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
8409200	Fundamentals of Careers in Education and Career Planning	FAM CON SC 1	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 Demonstrate skills for success.
- 02.0 Analyze careers in the field of education.
- 03.0 Demonstrate career decisions as they relate to the teaching profession.
- 04.0 Demonstrate the skills involved in effective resource management.
- 05.0 Practice health and safety in the learning environment.
- 06.0 Analyze the nutritional needs of children.
- 07.0 Analyze physical, emotional, intellectual and social development of children.
- 08.0 Exhibit best practices for learning environments.
- 09.0 Demonstrate effective communication skills.
- 10.0 Recognize age-appropriate learning activities.
- 11.0 Identify and understand basic observation techniques and how they are used to evaluate children's developmental milestones.
- 12.0 Utilize technology as it relates to the field of education.
- 13.0 Describe and use communication features of information technology.

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

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

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Careers in Education and Career Planning
Course Number: 8409200
Course Length: Semester

Course Description:

This middle school course covers leadership, employability, communication, and resource management skills. Students will research careers in the field of education. Students will learn the importance of health and safety in the learning environment, all stages of the developing child, appropriate learning activities, and techniques for observing children.

CTE Standards and Benchmarks	
01.0	Demonstrate skills for success. The student will be able to:
01.01	Identify different types of professional and community service organizations, including career and technical student organizations that relate to the child and education.
01.02	Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.03	Develop human relationship skills such as a positive work ethic, positive attitudes towards others, and manners in the workplace.
01.04	Identify and utilize the planning process to accomplish personal and professional goals.
02.0	Analyze careers in the field of education. The student will be able to:
02.01	Describe available careers in education.
02.02	Classify careers from entry level to professional level.
02.03	Explore entrepreneurship opportunities in the field of education.
02.04	Research and present information on careers in Education to include the roles and responsibilities, opportunities for employment, and requirements for training and certification.
03.0	Demonstrate career decisions as they relate to the teaching profession. The student will be able to
03.01	Demonstrate employability skills as they relate to teaching.
03.02	Identify personal interests, aptitudes, talents and abilities that can contribute to positive self-esteem and success in the work place.
03.03	Practice teamwork skills.

03.04	Practice positive work ethics and identify negative work ethics, including influences of social media on job performance.
03.05	Apply math, reading, science, and critical thinking skills as they relate to the field of education.
03.06	Describe and utilize different job search skills available
03.07	Develop short-term and long-term goals for personal and professional achievement.
04.0	Demonstrate the skills involved in effective resource management. The student will be able to:
04.01	Identify steps of the decision-making process.
04.02	Distinguish between a need and a want.
04.03	Explain how values and goals affect decisions.
04.04	Develop a budget and savings plan.
05.0	Practice health and safety in the learning environment. The student will be able to:
05.01	Describe the indicators of a healthy child.
05.02	Recognize the indicators of childhood illnesses, their causes and preventive measures.
05.03	Identify common indicators of child abuse and neglect.
05.04	Research laws that relate to reporting suspected child abuse.
05.05	List community agencies that provide help to abused children.
05.06	Identify safety guidelines to follow when caring for children.
05.07	Create a response plan for emergency situations.
05.08	Research available certifications for babysitters.
06.0	Analyze the nutritional needs of children. The student will be able to:
06.01	Identify nutritional needs of children.
06.02	Research foods that may be harmful to children, i.e. food allergies.
06.03	Research long term effects of childhood obesity and poor nutrition.
06.04	Plan and prepare nutritious snacks for children using appropriate safety and sanitation procedures.

07.0	Analyze the physical, emotional, intellectual and social development of children. The student will be able to:
07.01	Describe common physical, emotional, intellectual and social milestones for children.
07.02	Create and demonstrate an age appropriate activity to promote a child's growth and development.
07.03	Research and demonstrate adaptations appropriate for a "special needs" child.
08.0	Exhibit best practices for learning environments. The student will be able to:
08.01	Arrange learning centers that provide for a child's exploration, discovery and development.
08.02	Develop guidelines for establishing activities, routines and transitions for children.
09.0	Demonstrate effective communication skills. The student will be able to:
09.01	Describe why communication is the basis for all relationships.
09.02	Distinguish between non-assertive, assertive, and aggressive communication.
09.03	Demonstrate communication skills that promote positive relationships with children.
09.04	Define and explain appropriate discipline and guidance procedures for children.
09.05	Practice active listening skills.
09.06	Utilize conflict resolution skills.
10.0	Recognize age-appropriate learning activities. The student will be able to:
10.01	Identify age-appropriate learning activities.
10.02	Evaluate games, equipment, activities, books, and play materials for age appropriateness.
11.0	Identify and understand basic observation techniques and how they are used to evaluate children's developmental milestones. The student will be able to:
11.01	Compare and contrast basic observation techniques in relation to the learning environment.
12.0	Utilize technology as it relates to the field of education. The student will be able to:
12.01	Identify technology utilized in the field of education.
12.02	Analyze technology trends impacting education.
12.03	Apply technology for efficient operation of the learning environment.

13.0	Describe and use communication features of information technology. The student will be able to:
13.01	Identify and categorize usage of different forms of storage devices and backup media.
13.02	Recognize essential database concepts such as bookmarking, web browsers, caching and cookies.
13.03	Identify and describe types of file systems and classify common file extensions based on software application programs used in the workplace environment.
13.04	Define important internet communications protocols and their roles in delivering basic Internet services.
13.05	Identify security issues related to Internet clients including ethical issues using social media.
13.06	Identify and use principles of Personal Information Management (PIM), including common applications.
13.07	Efficiently transmit text and attachments using email systems used in the workplace environment.
13.08	Conduct a webcast and related services.
13.09	Represent technical issues to a non-technical audience.
13.10	Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
13.11	Work cooperatively as a group member to achieve organizational goals.
13.12	Demonstrate leadership roles and organizational responsibilities.
13.13	Identify and utilize the planning process.
<u>Listed below are the standards that must be met to satisfy the requirements of Section 1003.4156, Florida Statutes.</u>	
The student will be able to:	
14.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
15.0	Develop skills to locate, evaluate, and interpret career information.
16.0	Identify and demonstrate processes for making short and long term goals.
17.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
18.0	Understand the relationship between educational achievement and career choices/postsecondary options.
19.0	Identify a career cluster and related pathways through an interest assessment that match career and education goals.

20.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
21.0	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 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: Orientation to Nursing
Course Type: Orientation/Exploratory
Career Cluster: Health Science

Secondary – Middle School

Course Number	8417106
CIP Number	0351260302
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	HOSA: Future Health Professionals

Purpose

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

The content includes but is not limited to basic information about the skills required, available, career paths, specializations, financial rewards, occupational hazards, and educational requirements. Information concerning the practices for promoting good health is included.

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

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

Course Structure

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

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

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

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8417106	Orientation to Nursing	REG NURSE 7 G PRAC NURSE @7 %7%G (Must be a Registered Nurse) LPN 7 G	Semester

Standards

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

- 01.0 Discuss the history of nursing.
- 02.0 Discuss personal qualities essential to nurses.
- 03.0 Demonstrate an awareness of various career pathways for nursing and occupations.
- 04.0 Identify skills performed by various levels of nursing occupations.
- 05.0 Identify life stages and the health care needs of each.
- 06.0 Demonstrate basic communication skills.
- 07.0 Perform basic mathematical calculations and demonstrate problem solving skills used by nurses.
- 08.0 Demonstrate an understanding of the principles of wellness and disease.
- 09.0 Identify the general plan of anatomy and physiology of the human body and perform nursing skills utilized for each system.
- 10.0 Discuss various job settings for nurses.
- 11.0 Demonstrate employability skills related to nursing.
- 12.0 Demonstrate how to take vital signs and analyze the results.
- 13.0 Perform a basic head to toe assessment & document the findings.

**Florida Department of Education
Student Performance Standards**

Course Title: Orientation to Nursing
Course Number: 8417106
Course Length: Semester

CTE Standards and Benchmarks	
01.0	Discuss the history of nursing. -- The student will be able to:
01.01	Compare nursing care from ancient times to the present. For example: families, religious orders, wars, modern treatment and equipment.
01.02	Discuss early pioneers in nursing such as Clara Barton and Florence Nightingale.
01.03	Demonstrate knowledge of how advances in science have impacted beliefs and practices from ancient times to the present.
02.0	Discuss personal qualities essential to nurses. -- The student will be able to:
02.01	Describe the personal traits of an ideal nurse.
02.02	List their own personal traits that would assist them in nursing and those that would need to be improved or developed.
02.03	Discuss the importance of legal and ethical behaviors as related to nursing.
03.0	Demonstrate an awareness of various career pathways for nursing and occupations. -- The student will be able to:
03.01	Identify and classify what careers fall under the nursing service category and cluster (e.g. C.N.A.s, PCTs, LPNs, ADNs, diploma R.N.s, B.S.N.s, M.S.N.s, PhDs, and DNPs) and identify various pathways to reach these levels.
03.02	List various institutions where training for nursing careers is available.
03.03	Identify types of education and training levels as it relates to nursing services/occupations.
03.04	List the advantages and disadvantages of one occupation including the following factors: job opportunities, salary ranges, fringe benefits, working conditions, and occupational hazards.
04.0	Identify skills performed by various levels of nursing occupations. -- The student will be able to:
04.01	Identify representative skills of nursing assistants and home health aides.
04.02	Identify representative skills of patient care technicians.
04.03	Identify representative skills of practical nurses.

CTE Standards and Benchmarks

04.04	Identify representative skills of professional nurses.
04.05	Identify representative skills of nursing specialties.
05.0	Identify life stages and the health care needs of each. -- The student will be able to:
05.01	Describe common health care needs from birth to death and identify how nurses help address those needs.
05.02	Identify how nurses promote optimum health.
05.03	Identify how cultural diversity/transcultural nursing affects health care needs at different life stages.
06.0	Demonstrate basic communication skills. -- The student will be able to:
06.01	Demonstrate interpersonal communication skills such as active listening, verbal, non-verbal and written language.
06.02	Demonstrate the ability to break medical terms into their word parts.
06.03	Discuss common abbreviations and symbols used in nursing.
06.04	Identify technology used in Nursing and the proper communication etiquette required for its' use.
07.0	Perform basic mathematical calculations and demonstrate problem solving skills used by nurses. -- The student will be able to:
07.01	Describe the importance of why accurate calculations and effective problem solving skills are required.
07.02	Calculate mathematical problems and measurements related to nursing.
07.03	Measure artificial medication in various forms, for example syringes or medicine cups.
07.04	Convert common weights, measure, and volumes to metric as applied in the health care setting.
07.05	Accurately tell time using both standard and international/military time formats.
08.0	Demonstrate an understanding of the principles of wellness and disease. – The student will be able to:
08.01	Describe how cultural and individual differences in lifestyles relate to wellness and quality of life and how these differences impact health problems of society.
08.02	Demonstrate an understanding of the risk factors that contribute to illness.
08.03	Identify consequences of substance abuse and high risk factors.
08.04	Describe strategies for prevention of diseases including health screenings and examinations.

CTE Standards and Benchmarks

08.05	Explain basic concepts of positive self-image, body and mental wellness and the effect stress has on both.
08.06	Explore the need for proper nutrition and water intake to maintain wellness.
09.0	Identify the general plan of anatomy and physiology of the human body and perform nursing skills utilized for each system. -- The student will be able to:
09.01	Describe the anatomical position of the body, defining basic body planes and directional terms.
09.02	Describe the anatomy and physiology of the respiratory system. 09.02.01 Describe illnesses/diseases related to the respiratory system. 09.02.02 Perform a basic assessment of respiratory rate and lung sounds.
09.03	Describe the anatomy and physiology of the integumentary system. 09.03.01 Describe illnesses/diseases related to the integumentary system. 09.03.02 Identify the various wounds related to the skin and their treatment.
09.04	Describe the anatomy and physiology of the skeletal system. 09.04.01 Describe illnesses/diseases of the skeletal system. 09.04.02 Identify types of fractures and splint/sling techniques.
09.05	Describe the anatomy and physiology of the muscle system. 09.05.01 Describe illnesses/diseases of the muscular system. 09.05.02 Perform ROM exercises.
09.06	Describe the anatomy and physiology of the digestive system. 09.06.01 Describe illnesses/diseases related to the digestive system. 09.06.02 Assess bowel sounds.
09.07	Describe the anatomy and physiology of the ear. 09.07.01 Describe illnesses/diseases related to the ear. 09.07.02 Perform the Rhinnes and Weber hearing test with a tuning fork. If available, test hearing with an audiometer.
09.08	Describe the anatomy and physiology of the eye. 09.08.01 Describe illnesses/diseases related to the eye. 09.08.02 Perform a vision exam using a Snellen eye chart
09.09	Describe the anatomy and physiology of the nervous system. 09.09.01 Describe illnesses/diseases related to the nervous system. 09.09.02 Perform a reflex exam using a reflex hammer.
09.10	Describe the anatomy and physiology of the circulatory system, including the heart. 09.10.01 Describe illnesses/diseases related to the circulatory system. 09.10.02 Demonstrate how to take a blood pressure.
09.11	Describe the anatomy and physiology of the excretory system. 09.11.01 Describe illnesses/diseases related to the excretory system. 09.11.02 Measure input & output.
09.12	Describe the anatomy and physiology of the immune system. 09.12.01 Describe the illnesses/disease related to the immune system.

CTE Standards and Benchmarks

	09.12.02	Perform hand washing,
	09.12.03	Demonstrate the operation of a microscope
	09.12.04	Demonstrate the streaking of an agar plate.
10.0	Discuss various job settings for nurses. -- The student will be able to:	
	10.01	Recognize various settings that employ nurses.
	10.02	Compare salaries and benefits of various levels of nursing and various employment settings.
	10.03	Discuss pros and cons of nursing jobs in various settings.
11.0	Demonstrate employability skills related to nursing. – The student will be able to:	
	11.01	Identify skills needed for employment as a nurse.
	11.02	At a minimum, demonstrate the skills used within nursing from the following list:
	11.02.01	Basic First Aid and CPR.
	11.02.02	Patient menu planning and feeding techniques.
	11.02.03	Measure and record temperature, pulse and respiration (TPR).
	11.02.04	Use of wheelchairs, crutches and/or walkers.
	11.02.05	Perform a weight, height and BMI assessment.
	11.02.06	Graph the development of infant/child on a growth chart.
	11.02.07	Correctly perform making an occupied and unoccupied bed.
12.0	Demonstrate how to take vital signs and analyze the results. – The student will be able to:	
	12.01	Demonstrate how to take an oral, temporal, axillary and tympanic temperature and analyze the results.
	12.02	Demonstrate how to take a radial, carotid and apical pulse and analyze the results.
	12.03	Demonstrate how to take respiration and analyze the results.
	12.04	Demonstrate how to take a blood pressure and analyze the results.
13.0	Perform a basic head to toe assessment & document the findings. – The student will be able to:	
	13.01	Perform a basic head to toe assessment and document the findings using correct terminology.
	13.02	Demonstrate how to take a health history.

Additional Information

Laboratory Activities

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

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 purpose of this course is to acquaint students with career opportunities and job requirements in the field of nursing which will enable students to consider career objectives and interests.

Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs occurs through vocational classroom instruction and applied laboratory procedures or practice.

Special projects that are related to nursing are provided, including role playing activities of daily living as a handicapped individual, developing an emergency evacuation plan for their own home, menu planning and feeding techniques, applying slings, use of wheelchairs, and creating their own nursing career plan. Team teaching and integration of the curriculum with English, Math and Science is encouraged.

Guest speakers from industry make an important contribution to the effectiveness of this course.

Career and Technical Student Organization (CTSO)

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

Accommodations

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

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

Florida Department of Education
Curriculum Framework

Course Title: Introduction to Education and Training
Course Type: Orientation/Exploratory
Career Cluster: Education & Training

Secondary – Middle School

Program Number	8440350
CIP Number	148440350M
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 Education & Training career cluster. The content includes but is not limited to planning, managing and providing educations and training services, and related learning support 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
8440350	Introduction to Education and Training	FAM CON SC 1 PK PRIMARY H PRESCH ED L PRIMARY ED @B E CHILD ED @0 ANY FIELD WHEN CERTIFICATION REFLECTS BACHELORS OR HIGHER	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 Demonstrate an understanding of the Administration and Administrative Support career pathway.
- 02.0 Demonstrate an understanding of the Professional Support Services career pathway.
- 03.0 Demonstrate an understanding of the Teaching/Training career pathway.
- 04.0 Apply leadership and communication skills.
- 05.0 Describe how information technology is used in the Education & Training career cluster.
- 06.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Education and Training
Course Number: 8440350
Course Length: Semester

Course Description:

Beginning with a broad overview of the Education & Training career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Education & Training 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 Administration and Administrative Support career pathway. The student will be able to:
01.01	Define and use proper terminology associated with the Administration and Administrative Support career pathway.
01.02	Describe some of the careers available in the Administration and Administrative Support career pathway.
01.03	Identify common characteristics of the careers in the Administration and Administrative Support career pathway.
01.04	Research the history of the Administration and Administrative Support 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 Administration and Administrative Support career pathway.
01.06	Describe technologies associated in careers within the Administration and Administrative Support career pathway.
02.0	Demonstrate an understanding of the Professional Support Services career pathway. The student will be able to:
02.01	Define and use proper terminology associated with the Professional Support Services career pathway.
02.02	Describe some of the careers available in the Professional Support Services career pathway.
02.03	Identify common characteristics of the careers in the Professional Support Services career pathway.
02.04	Research the history of the Professional Support 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 Professional Support Services career pathway.
02.06	Describe technologies associated in careers within the Professional Support Services career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Teaching/Training career pathway. The student will be able to:

03.01 Define and use proper terminology associated with the Teaching/Training career pathway.

03.02 Describe some of the careers available in the Teaching/Training career pathway.

03.03 Identify common characteristics of the careers in the Teaching/Training career pathway.

03.04 Research the history of the Teaching/Training career pathway and describe how the careers have evolved and impacted society.

03.05 Identify skills required to successfully enter any career in the Teaching/Training career pathway.

03.06 Describe technologies associated in careers within the Teaching/Training career pathway.

04.0 Apply leadership and communication skills. The student will be able to:

04.01 Discuss the establishment and history of the FCCLA organization.

04.02 Identify the characteristics and responsibilities of organizational leaders.

04.03 Demonstrate parliamentary procedure skills during a meeting.

04.04 Participate on a committee which has an assigned task and report to the class.

04.05 Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.

04.06 Use a computer to assist in the completion of a project related to the Education and Training career cluster.

05.0 Describe how information technology is used in the Education & Training career cluster. The student will be able to:

05.01 Identify information technology (IT) careers in the Education and Training career cluster, including the responsibilities, tasks and skills they require.

05.02 Relate information technology project management concepts and terms to careers in the Education and Training career cluster.

05.03 Manage information technology components typically used in professions of the Education and Training career cluster.

05.04 Identify security-related ethical and legal IT issues faced by professionals in the Education and Training career cluster.

06.0 Use information technology tools. The student will be able to:

06.01 Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Education & Training career cluster.

06.02 Use e-mail clients to send simple messages and files to other Internet users.

CTE Standards and Benchmarks

06.03 Demonstrate ways to communicate effectively using Internet technology.

06.04 Use different types of web search engines effectively to locate information relevant to the Education and Training 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 Leadership of America, Inc. (FCCLA) is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

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

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

Florida Department of Education
Curriculum Framework

Program Title: Career Discovery
Program Type: Orientation/Exploratory
Career Cluster: Human Services

Secondary – Middle School

Program Number	8500140
CIP Number	04209950EX
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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
8500140	Career Discovery	FAM CON SC 1	Semester

Standards

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

- 01.0 Demonstrate leadership and organizational skills in the workplace.
- 02.0 Apply academic skills as they relate to the workplace.
- 03.0 Identify desirable personal and work ethics.
- 04.0 Develop interpersonal skills for personal and career success.
- 05.0 Demonstrate team player skills.
- 06.0 Demonstrate employability skills.
- 07.0 Create and maintain an employment portfolio.
- 08.0 Demonstrate critical thinking skills and application of the decision making process as it relates to personal and work situations.
- 09.0 Recognize and demonstrate effective communication skills.
- 10.0 Identify appropriate dress for various job experiences.
- 11.0 Recognize the importance of healthy choices as they relate to the well-being of the individual.
- 12.0 Practice successful resource management techniques.
- 13.0 Identify legal and ethical issues as they relate to the work environment.
- 14.0 Identify job benefits.
- 15.0 Practice employee and job safety.
- 16.0 Identify career pathways related to Family and Consumer Sciences.

**Florida Department of Education
Student Performance Standards**

Course Title: Career Discovery
Course Number: 8500140
Course Credit: Semester

Course Description:

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.

CTE Standards and Benchmarks	
01.0	Demonstrate teamwork and leadership skills in the family, workplace, and community. - The student will be able to:
01.01	Identify purposes, functions, roles and responsibilities of members of professional and youth 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	Apply academic skills as they relate to the workplace. – The student will be able to:
02.01	Demonstrate reading comprehension of technical/work manuals and written instruction.
02.02	Apply appropriate mathematical skills as they relate to the task at hand.
03.0	Identify desirable personal and work ethics. – The student will be able to:
03.01	Describe positive and negative personal and work ethics.
03.02	Recognize the benefits of positive personal and work ethics.
03.03	Identify character traits that reflect good moral judgment (i.e. honesty, kindness).
03.04	Demonstrate characteristics that produce successful employee/employer relations.
04.0	Develop interpersonal skills for personal and career success. – The student will be able to:

CTE Standards and Benchmarks

04.01 Determine ways to strengthen self-esteem.

04.02 Identify factors that influence personality formation.

04.03 Identify positive human resources required for successful personal and work relationships.

04.04 Describe qualities and characteristics of a mentoring experience.

04.05 Determine the relevance of integrating academic learning, social skills and lifestyle choices to home, community and career.

05.0 Demonstrate team player skills. – The student will be able to:

05.01 Define teamwork.

05.02 Identify the benefits of working cooperatively.

05.03 Recognize confrontational personality types within a team.

05.04 Practice conflict resolution techniques.

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

06.01 Identify academic skills required for job success.

06.02 Recognize factors that may influence career choices.

06.03 Identify sources of career information.

06.04 Create and discuss the importance of the components of a current resume.

06.05 List the steps in a job search.

06.06 Demonstrate the ability to complete a job application.

06.07 Demonstrate effective interviewing skills.

07.0 Demonstrate critical thinking skills and application of the decision making process as it relates to personal and work situations. – The student will be able to:

07.01 Define the decision-making process.

07.02 Apply the decision making-process in workplace situations.

07.03 Demonstrate the ability to apply critical thinking skills.

08.0 Recognize and demonstrate effective communication skills. – The student will be able to:

CTE Standards and Benchmarks

08.01 Define assertive, aggressive, and passive communication.

08.02 Identify the impact of non-verbal behavior on communication.

08.03 Analyze the importance of accepting constructive criticism.

08.04 Demonstrate techniques for dealing with criticism.

08.05 Identify appropriate conversation for the work environment.

08.06 Practice appropriate written and verbal communication necessary for the workplace.

08.07 Practice effective presentation techniques.

09.0 Identify appropriate dress for various job experiences. – The student will be able to:

09.01 Practice good grooming techniques.

09.02 Identify the factors needed to create an economical, coordinated, easy care work wardrobe.

09.03 Select appropriate clothing for a variety of careers and work situations.

10.0 Recognize the importance of healthy choices as they relate to the well-being of the individual. – The student will be able to:

10.01 Define and describe symptoms of stress.

10.02 Identify various coping behaviors.

10.03 List and define types of substance abuse.

10.04 Identify effects of substance abuse on job performance.

10.05 List help that is available, through the government and community organizations, for attaining and maintaining good mental and emotional health.

10.06 Describe the importance of healthy food choices as they relate to job performance.

10.07 Identify techniques for balancing work, community, and personal life.

11.0 Identify legal issues as they relate to the work environment. – The student will be able to:

11.01 Define and describe types of sexual harassment in the workplace.

11.02 Identify appropriate conversation for the work environment.

11.03 List the advantages of a culturally diverse workplace.

CTE Standards and Benchmarks

11.04 Discuss the Americans with Disabilities Act.

11.05 Discuss the Equal Employment Opportunity Act.

12.0 Identify job benefits. – The student will be able to:

12.01 Define job benefits.

12.02 Identify advantages of benefit packages.

12.03 Discuss income as it relates to career success.

13.0 Practice employee and job safety. – The student will be able to:

13.01 Discuss the roles of the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA).

13.02 Discuss human errors and unsafe work environments and their relationship to employee safety.

13.03 Demonstrate safe operation of workplace equipment.

13.04 Identify first aid procedures for accidents and injuries.

14.0 Identify career pathways related to family and consumer sciences. – The student will be able to:

14.01 Define and describe the different types of businesses related to Family and Consumer Sciences career pathways.

14.02 Explain entrepreneurship.

14.03 Describe the risks and advantages of entrepreneurship.

14.04 Develop an entrepreneur business plan for a Family and Consumer Sciences career pathway.

14.05 Operate an on-site business related to a Family and Consumer Sciences career pathway.

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

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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

Program Title: Personal Development
Program Type: Orientation/Exploratory
Career Cluster: Human Services

Secondary – Middle School

Program Number	8500230
CIP Number	09209921EX
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 development of self-esteem, a personal value system and self-discipline by developing positive coping skills to deal with physical, emotional, intellectual and social changes in self and others.

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
8500230	Personal Development	FAM CON SC 1 HEALTH 6	Semester

Standards

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

- 01.0 Demonstrate leadership, study, and organizational skills.
- 02.0 Recognize factors that affect personality development.
- 03.0 Identify and apply skills needed for positive interpersonal relationships.
- 04.0 Identify positive coping skills for dealing with stress and conflict.
- 05.0 Identify relationships that influence personality development.
- 06.0 Assess the importance of good health and wellness.
- 07.0 Develop a plan for managing your resources.

**Florida Department of Education
Student Performance Standards**

Course Title: Personal Development
Course Number: 8500230
Course Credit: Semester

Course Description:

The content includes but is not limited to development of self-esteem, a personal value system and self-discipline by developing positive coping skills to deal with physical, emotional, intellectual and social changes in self and others.

CTE Standards and Benchmarks	
01.0	Demonstrate leadership, study, and organizational skills. – The student will be able to:
01.01	Identify purposes and functions of professional and community service organizations.
01.02	Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.03	Work cooperatively as a group member to achieve organizational goals.
01.04	Demonstrate confidence in leadership roles and organizational responsibilities.
01.05	Demonstrate personal responsibility.
01.06	Practice time management techniques.
01.07	Identify methods used for studying.
01.08	List ways to use study time wisely.
01.09	Create a plan to manage your time.
01.10	List ways technology can add balance your life.
01.11	Develop a personal growth project.
01.12	Identify ways to create organization in your personal space.

CTE Standards and Benchmarks

02.0 Recognize factors that affect personality development. – The student will be able to:

02.01 Review Robert Havighurst’s developmental tasks of pre-adolescence and adolescence.

02.02 Identify Maslow’s basic human needs.

02.03 Define self-esteem and self-concept.

02.04 Explain how heredity and environment affect the development of personality.

02.05 Identify factors that affect self-concept and achievement.

02.06 State how a positive self-concept builds good relationships with friends, peers, parents, and family members.

02.07 Identify characteristics of individuals with high/low self-esteem.

02.08 Inventory personal traits, attitudes, abilities, talents and values that can be used as resources in personal development.

02.09 Analyze personality strengths and weaknesses.

02.10 Identify how values and standards affect character and actions.

02.11 Determine how to make ethical decisions.

03.0 Identify and apply skills needed for positive interpersonal relationships. – The student will be able to:

03.01 Identify social skills that contribute to good relationships with others, including diverse multi-cultural groups.

03.02 Identify appropriate topics of conversation when establishing relationships with acquaintances.

03.03 List forms of verbal and non-verbal communication.

03.04 Practice positive communication skills.

03.05 Demonstrate appropriate manners and etiquette for a variety of social situations.

04.0 Identify positive coping skills for adjusting to stress and conflict. – The student will be able to:

04.01 Identify positive and negative stress.

04.02 Identify changes that affect families.

04.03 Describe ways of coping with personal and family stress and crises.

CTE Standards and Benchmarks

04.04 Recognize signs of peer pressure and bullying.

04.05 Demonstrate refusal skills.

04.06 Identify causes of conflict.

04.07 List the steps in the conflict resolution process.

04.08 Compare ways of dealing with and preventing conflict with friends and family members.

05.0 Identify relationships that influence personality development. – The student will be able to:

05.01 Identify types of relationships.

05.02 Describe qualities of a friend.

05.03 Define reasons for dating.

05.04 Recognize healthy and unhealthy relationships.

05.05 List the functions of families.

05.06 List types of family structures.

05.07 Describe the family life cycle.

05.08 Identify ways to blend work and family.

05.09 Discuss the benefits and challenges of current technology and the impact on the family.

05.10 Identify factors in caring for children and the elderly.

05.11 Discuss the joys and challenges of being a parent.

06.0 Assess the importance of good health and wellness. – The student will be able to:

06.01 Describe wellness.

06.02 Explain the importance of good nutrition.

06.03 Classify foods according to the Food Guide Pyramid.

06.04 List the essential nutrients and describe their functions and sources.

CTE Standards and Benchmarks

06.05 List good health practices that contribute to looking your best.

06.06 Identify the health risks associated with the use of alcohol, tobacco, and other drugs.

06.07 List resources and organizations that assist individuals who abuse alcohol, tobacco, and other drugs.

06.08 Develop an exercise and nutrition plan that incorporates the components of wellness.

06.09 Identify careers related to health and wellness.

07.0 Develop a plan for managing your resources. – The student will be able to:

07.01 Define needs and wants.

07.02 Identify major and minor decisions and the factors that affect decisions.

07.03 Identify the steps of the decision-making process.

07.04 Develop a self-improvement plan using the decision-making process to set goals and priorities.

07.05 Apply the decision-making process to personal, social, and family activities.

07.06 Identify factors that affect consumer choices.

07.07 Identify ways to manage your resources for personal needs and wants.

07.08 Develop a spending and savings plan for your money.

07.09 Discuss reasons for working.

07.10 Explain the relationship between income and lifestyle.

07.11 Identify the personal skills needed for employment.

07.12 Discuss careers related to resource management.

Additional Information

Laboratory Activities

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

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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: Personal Development and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Human Services

Secondary – Middle School

Program Number	8500430
CIP Number	09209921CE
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> 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 development of self-esteem, a personal value system and self-discipline by developing positive coping skills to deal with physical, emotional, intellectual and social changes in self and others.

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
8500430	Personal Development and Career Planning	FAM CON SC 1 HEALTH 6	Semester

Standards

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

- 01.0 Demonstrate leadership, study, and organizational skills.
- 02.0 Recognize factors that affect personality development.
- 03.0 Identify and apply skills needed for positive interpersonal relationships.
- 04.0 Identify positive coping skills for dealing with stress and conflict.
- 05.0 Identify relationships that influence personality development.
- 06.0 Assess the importance of good health and wellness.
- 07.0 Develop a plan for managing your resources.

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: Personal Development and Career Planning
Course Number: 8500430
Course Credit: Semester

Course Description:

The content includes but is not limited to development of self-esteem, a personal value system and self-discipline by developing positive coping skills to deal with physical, emotional, intellectual and social changes in self and others.

CTE Standards and Benchmarks	
01.0	Demonstrate leadership, study, and organizational skills. – The student will be able to:
01.01	Identify purposes and functions of professional and community service organizations.
01.02	Identify roles and responsibilities of members of professional and community service organizations, including career and technical student organizations.
01.03	Work cooperatively as a group member to achieve organizational goals.
01.04	Demonstrate confidence in leadership roles and organizational responsibilities.
01.05	Demonstrate personal responsibility.
01.06	Practice time management techniques.
01.07	Identify methods used for studying.
01.08	List ways to use study time wisely.
01.09	Create a plan to manage your time.
01.10	List ways technology can add balance your life.
01.11	Develop a personal growth project.
01.12	Identify ways to create organization in your personal space.
02.0	Recognize factors that affect personality development. – The student will be able to:
02.01	Review Robert Havighurst’s developmental tasks of pre-adolescence and adolescence.

CTE Standards and Benchmarks

02.02 Identify Maslow's basic human needs.

02.03 Define self-esteem and self-concept.

02.04 Explain how heredity and environment affect the development of personality.

02.05 Identify factors that affect self-concept and achievement.

02.06 State how a positive self-concept builds good relationships with friends, peers, parents, and family members.

02.07 Identify characteristics of individuals with high/low self-esteem.

02.08 Inventory personal traits, attitudes, abilities, talents and values that can be used as resources in personal development.

02.09 Analyze personality strengths and weaknesses.

02.10 Identify how values and standards affect character and actions.

02.11 Determine how to make ethical decisions.

03.0 Identify and apply skills needed for positive interpersonal relationships. – The student will be able to:

03.01 Identify social skills that contribute to good relationships with others, including diverse multi-cultural groups.

03.02 Identify appropriate topics of conversation when establishing relationships with acquaintances.

03.03 List forms of verbal and non-verbal communication.

03.04 Practice positive communication skills.

03.05 Demonstrate appropriate manners and etiquette for a variety of social situations.

04.0 Identify positive coping skills for adjusting to stress and conflict. – The student will be able to:

04.01 Identify positive and negative stress.

04.02 Identify changes that affect families.

04.03 Describe ways of coping with personal and family stress and crises.

04.04 Recognize signs of peer pressure and bullying.

04.05 Demonstrate refusal skills.

04.06 Identify causes of conflict.

CTE Standards and Benchmarks

04.07 List the steps in the conflict resolution process.

04.08 Compare ways of dealing with and preventing conflict with friends and family members.

05.0 Identify relationships that influence personality development. – The student will be able to:

05.01 Identify types of relationships.

05.02 Describe qualities of a friend

05.03 Recognize healthy and unhealthy relationships.

05.04 List the functions of families.

05.05 List types of family structures.

05.06 Describe the family life cycle.

05.07 Identify ways to blend work and family.

05.08 Discuss the benefits and challenges of current technology and the impact on the family.

05.09 Identify factors in caring for children and the elderly.

05.10 Discuss the joys and challenges of being a parent.

05.11 Discuss the joys and challenges of being a parent

06.0 Assess the importance of good health and wellness. – The student will be able to:

06.01 Describe wellness.

06.02 Explain the importance of good nutrition.

06.03 Classify foods according to the Food Guide Pyramid.

06.04 List the essential nutrients and describe their functions and sources.

06.05 List good health practices that contribute to looking your best.

06.06 Identify the health risks associated with the use of alcohol, tobacco, and other drugs.

06.07 List resources and organizations that assist individuals who abuse alcohol, tobacco, and other drugs.

06.08 Develop an exercise and nutrition plan that incorporates the components of wellness.

CTE Standards and Benchmarks

06.09 Identify careers related to health and wellness.

07.0 Develop a plan for managing your resources. – The student will be able to:

07.01 Define needs and wants.

07.02 Identify major and minor decisions and the factors that affect decisions.

07.03 Identify the steps of the decision-making process.

07.04 Develop a self-improvement plan using the decision-making process to set goals and priorities.

07.05 Apply the decision-making process to personal, social, and family activities.

07.06 Identify factors that affect consumer choices.

07.07 Identify ways to manage your resources for personal needs and wants.

07.08 Develop a spending and savings plan for your money.

07.09 Discuss reasons for working.

07.10 Explain the relationship between income and lifestyle.

07.11 Identify the personal skills needed for employment.

07.12 Discuss careers related to resource management.

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.

CTE Standards and Benchmarks

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.

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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)

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: Introduction to Finance
Course Type: Orientation/Exploratory
Career Cluster: Finance

Secondary – Middle School

Course Number	8540350
CIP Number	148540350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FBLA BPA 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 Finance career cluster. The content includes but is not limited to instruction in elements of the financial industry: planning; management; finance; economics; technical and production skills; underlying principles of technology; labor issues; community issues and health, safety, and environmental issues; risk management liability; and health, life, and disability insurance. The path begins with an overview of globalization, including world factors pushing organizations to expand into other markets in order to remain viable. Students explore cultural and political differences that affect organizational operations and decision making. 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
8540350	Introduction to Finance	BUS ED 1 @2 MKTG 1 @2 TC COOP ED @7 VOE @7	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 Securities and Investments career pathway.
- 02.0 Demonstrate an understanding of the Business Finance career pathway.
- 03.0 Demonstrate an understanding of the Banking Services career pathway.
- 04.0 Demonstrate an understanding of the Insurance career pathway.
- 05.0 Apply leadership and communication skills.
- 06.0 Describe how information technology is used in the Finance career cluster.
- 07.0 Use information technology tools.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Finance
Course Number: 8540350
Course Length: Semester

Course Description:

Beginning with a broad overview of the Finance career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Finance 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 Securities and Investments career pathway – the student will be able to:
01.01	Define and use proper terminology associated with the Securities and Investments career pathway.
01.02	Describe some of the careers available in the Securities and Investments career pathway.
01.03	Identify common characteristics of the careers in the Securities and Investments career pathway.
01.04	Research the history of the Securities and Investments 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 Securities and Investments career pathway.
01.06	Describe technologies associated in careers within the Securities and Investments career pathway.
02.0	Demonstrate an understanding of the Business Finance career pathway – the student will be able to:
02.01	Define and use proper terminology associated with the Business Finance career pathway.
02.02	Describe some of the careers available in the Business Finance career pathway.
02.03	Identify common characteristics of the careers in the Business Finance career pathway.
02.04	Research the history of the Business Finance career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Business Finance career pathway.
02.06	Describe technologies associated in careers within the Business Finance career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Banking Services career pathway – the student will be able to:

03.01 Define and use proper terminology associated with the Banking Services career pathway.

03.02 Describe some of the careers available in the Banking Services career pathway.

03.03 Identify common characteristics of the careers in the Banking Services career pathway.

03.04 Research the history of the Banking 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 Banking Services career pathway.

03.06 Describe technologies associated in careers within the Banking Services career pathway.

04.0 Demonstrate an understanding of the Insurance career pathway – the student will be able to:

04.01 Define and use proper terminology associated with the Insurance career pathway.

04.02 Describe some of the careers available in the Insurance career pathway.

04.03 Identify common characteristics of the careers in the Insurance career pathway.

04.04 Research the history of the Insurance career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Insurance career pathway.

04.06 Describe technologies associated in careers within the Insurance 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 and BPA 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 Finance career cluster.

06.0 Describe how information technology is used in the Finance career cluster – the student will be able to:

CTE Standards and Benchmarks

06.01 Identify information technology (IT) careers in the Finance career cluster, including the responsibilities, tasks and skills they require.

06.02 Relate information technology project management concepts and terms to careers in the Finance career cluster.

06.03 Manage information technology components typically used in professions of the Finance career cluster.

06.04 Identify security-related ethical and legal IT issues faced by professionals in the Finance 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 Finance 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 Finance 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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Special Notes

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Career and Technical Student Organization (CTSO)

Future Business Leaders of America (FBLA), Business Professional of America (BPA) and DECA 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: Introduction to Finance and Career Planning
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Finance

Secondary – Middle School

Course Number	8540360
CIP Number	148540360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FBLA BPA 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 Finance career cluster. The content includes but is not limited to instruction in elements of the financial industry: planning; management; finance; economics; technical and production skills; underlying principles of technology; labor issues; community issues and health, safety, and environmental issues; risk management liability; and health, life, and disability insurance. The path begins with an overview of globalization, including world factors pushing organizations to expand into other markets in order to remain viable. Students explore cultural and political differences that affect organizational operations and decision making. 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
8540360	Introduction to Finance and Career Planning	BUS ED 1 @2 MKTG 1 @2 TC COOP ED @7 VOE @7	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 Securities and Investments career pathway.
- 02.0 Demonstrate an understanding of the Business Finance career pathway.
- 03.0 Demonstrate an understanding of the Banking Services career pathway.
- 04.0 Demonstrate an understanding of the Insurance career pathway.
- 05.0 Apply leadership and communication skills.
- 06.0 Describe how information technology is used in the Finance 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 through an interest assessment that match career and education goals.
- 14.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
- 15.0 Demonstrate knowledge of technology and its application in career fields/clusters.

**Florida Department of Education
Student Performance Standards**

Course Title: Introduction to Finance and Career Planning
Course Number: 8540360
Course Length: Semester

Course Description:

Beginning with a broad overview of the Finance career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Finance 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 Securities and Investments career pathway – the student will be able to:
01.01	Define and use proper terminology associated with the Securities and Investments career pathway.
01.02	Describe some of the careers available in the Securities and Investments career pathway.
01.03	Identify common characteristics of the careers in the Securities and Investments career pathway.
01.04	Research the history of the Securities and Investments 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 Securities and Investments career pathway.
01.06	Describe technologies associated in careers within the Securities and Investments career pathway.
02.0	Demonstrate an understanding of the Business Finance career pathway – the student will be able to:
02.01	Define and use proper terminology associated with the Business Finance career pathway.
02.02	Describe some of the careers available in the Business Finance career pathway.
02.03	Identify common characteristics of the careers in the Business Finance career pathway.
02.04	Research the history of the Business Finance career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Business Finance career pathway.
02.06	Describe technologies associated in careers within the Business Finance career pathway.

CTE Standards and Benchmarks

03.0 Demonstrate an understanding of the Banking Services career pathway – the student will be able to:

03.01 Define and use proper terminology associated with the Banking Services career pathway.

03.02 Describe some of the careers available in the Banking Services career pathway.

03.03 Identify common characteristics of the careers in the Banking Services career pathway.

03.04 Research the history of the Banking 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 Banking Services career pathway.

03.06 Describe technologies associated in careers within the Banking Services career pathway.

04.0 Demonstrate an understanding of the Insurance career pathway – the student will be able to:

04.01 Define and use proper terminology associated with the Insurance career pathway.

04.02 Describe some of the careers available in the Insurance career pathway.

04.03 Identify common characteristics of the careers in the Insurance career pathway.

04.04 Research the history of the Insurance career pathway and describe how the careers have evolved and impacted society.

04.05 Identify skills required to successfully enter any career in the Insurance career pathway.

04.06 Describe technologies associated in careers within the Insurance career pathway.

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Florida Department of Education
Curriculum Framework

Course Title: Fundamentals of Finance
Course Type: Orientation/Exploratory
Career Cluster: Finance

Secondary – Middle School

Course Number	8540400
CIP Number	148540400M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the <u>Course Structure</u> section.
CTSO	FBLA BPA 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 Finance career cluster. Fundamentals of Finance provides students with opportunities to become familiar with related careers and develop fundamental knowledge and skills in general economic systems, financial securities, banking concepts, credit, and consumer lending in the United States. Instruction in information systems and related electronic skills and software applications is also included. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

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
8540400	Fundamentals of Finance	BUS ED 1 @2 MKTG 1 @2 TC COOP ED @7 VOE @7	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 Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
- 02.0 Demonstrate ability in using microcomputer and electronic skills to perform job functions.
- 03.0 Develop and utilize business-related soft skills.
- 04.0 Develop sales and marketing fundamentals.
- 05.0 Demonstrate effective customer service skills.
- 06.0 Develop awareness of management functions and organizational structures as they relate to today's workplace and employer/employee roles. Demonstrate initiative, courtesy, loyalty, honesty, cooperation and punctuality as a team member.
- 07.0 Assess personal strengths and weaknesses relating to job objectives, career exploration, personal development, and life goals
- 08.0 Compare the differences between the various economic systems and explore American capitalism.
- 09.0 Demonstrate knowledge through citing examples of capital markets and the role securities have within these markets.
- 10.0 Develop skills in interpreting the financial section of the daily newspaper
- 11.0 Identify different types of business organization.
- 12.0 State the banking concept as used in America.
- 13.0 Describe the role of consumer credit in today's society.
- 14.0 Identify the principles of saving and borrowing.
- 15.0 Summarize global banking functions.
- 16.0 Define global trade.

**Florida Department of Education
Student Performance Standards**

Course Title: Fundamentals of Finance
Course Number: 8540400
Course Length: Semester

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.
01.06	Demonstrate basic file management skills.
01.07	Troubleshoot problems with computer software, hardware, peripherals, and other office equipment.
01.08	Select and use standard written business and financial communication formats.
02.0	Demonstrate ability in using microcomputer and electronic skills to perform job functions – the student will be able to:
02.01	Apply the following tools to increase work efficiency: word processing, database, spreadsheet programs, presentation programs, email systems, and the Internet.
02.02	Utilize computer technology to access, analyze and interpret business information.
02.03	Cite Internet-based resources correctly using proper format.
02.04	Research industry trends on the Internet.

CTE Standards and Benchmarks

03.0 Develop and utilize business-related soft skills – the student will be able to:

03.01 Understand the importance of a positive attitude in obtaining and maintaining a job.

03.02 Identify good grooming and dress habits for the workplace.

03.03 Develop problem-solving skills.

03.04 Identify the benefits of teamwork.

03.05 Identify the importance of impromptu speaking ability in the workplace.

03.06 Identify the importance of prepared speaking ability in the workplace.

04.0 Develop sales and marketing fundamentals – the student will be able to:

04.01 Demonstrate knowledge of available financial services and products.

04.02 Recognize consumer motivation, including demographic, geographic and socioeconomic data in buying behaviors.

04.03 Explain the importance of and demonstrate the procedures of cross selling.

04.04 Identify the opportunities for cross selling.

04.05 Follow effective procedures for closing a sale.

04.06 Demonstrate the ability to sell a variety of financial services and products.

05.0 Demonstrate effective customer service skills – the student will be able to:

05.01 Practice appropriate communication skills, telephone etiquette, courtesy, and manners when dealing with customers in person, or over the phone.

05.02 Identify and evaluate customer needs.

05.03 Practice responding to client inquiries in a timely matter.

05.04 Practice available techniques to effectively serve customers.

05.05 Practice assisting clients, including difficult customers, with problem resolution.

06.0 Develop awareness of management functions and organizational structures as they relate to today's workplace and employer/employee roles. Demonstrate initiative, courtesy, loyalty, honesty, cooperation and punctuality as a team member – the student will be able to:

06.01 Explore and evaluate organizational structures and cultures for managing project teams.

CTE Standards and Benchmarks

06.02	Explore and identify current trends in business and the employee's role in maintaining productive business environments in today's global workplace.
06.03	Collaborate with individuals and teams to practice tasks and solve business-related problems, demonstrating initiative, courtesy, loyalty, honesty, cooperation, and punctuality as a team member.
07.0	Assess personal strengths and weaknesses relating to job objectives, career exploration, personal development, and life goals – the student will be able to:
07.01	Analyze job and career requirements and relate career interests to opportunities in financial occupations in the global economy.
08.0	Compare the differences between the various economic systems and explore American capitalism – the student will be able to:
08.01	Describe the terms "market" and "market system." Compare and contrast major features of a variety of economic systems.
08.02	Describe the characteristics of America's market economy and the impact of supply and demand.
08.03	Explain the role of the profit motive in investment decisions.
09.0	Demonstrate knowledge through citing examples of capital markets and the role securities have within these markets – the student will be able to:
09.01	Identify reasons for corporate efforts to raise capital.
09.02	Explain methods available to corporations for raising capital.
10.0	Develop skill in interpreting the financial section of the daily newspaper – the student will be able to:
10.01	Identify important financial data components found in the financial section of a daily newspaper.
11.0	Identify different types of business organization – the student will be able to:
11.01	Compare the features of proprietorship, partnership, and corporation.
11.02	List the advantages and disadvantages of forming a corporation.
11.03	Discuss reasons for corporate acquisitions and mergers.
12.0	State the banking concept as used in America – the student will be able to:
12.01	Identify the basic functions of banks.
12.02	Describe the services offered by a full service bank.
12.03	Explain the importance of selling financial services by all financial institutions.
13.0	Describe the role of consumer credit in today's society – the student will be able to:

CTE Standards and Benchmarks

13.01 Define consumer credit.

13.02 Identify major providers of consumer credit.

13.03 State the reasons consumer credit exists.

14.0 Identify the principles of saving and borrowing – the student will be able to:

14.01 Describe the importance of credit to consumers in the American marketplace.

14.02 List the criteria for judging an individual's credit worthiness.

14.03 Describe three different types of consumer credit discrimination.

14.04 Describe a strategy for increasing an individual's savings.

15.0 Summarize global banking functions – the student will be able to:

15.01 Describe the promotion of global trade.

15.02 Analyze the global credit crisis.

15.03 Identify global exchange services.

16.0 Define global trade – the student will be able to:

16.01 Describe what takes place during the rise or fall of the exchange rate of the U.S. dollar.

16.02 Outline the advantages and disadvantages of a protectionist policy.

16.03 Identify possible solutions to the problem of meeting global competition.

16.04 Distinguish between imports and exports.

16.05 Discuss the U.S. balance of trade.

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)

Future Business Leaders of America (FBLA), Business Professionals of America (BPA) and DECA 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

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

Secondary – Middle School

Program Number	8600000
CIP Number	08210122EX
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the Program Structure section
CTSO	FL-TSA

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
8600010	Introduction to Technology	ENG 7G	Semester
8600020	Exploring Technology	ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2 TRANSPORT 7G	Semester
8600030	Exploration of Communications Technology	COMM ART @7 7G ENG 7G GRAPH ARTS @4 PRINTING @7 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600040	Exploration of Production Technology	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
8600050	Exploration of Aerospace Technology	AEROSPACE 7G ENG 7G ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2 TRANSPORT 7G	Semester

Course Number	Course Title	Teacher Certification	Length
8600240	Exploration of Transportation Technology	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
8600250	Exploration of Power and Energy Technology	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
8600060	Exploration of Engineering Technology	ENG 7G ENG TEC 7G PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600070	Exploration of Robotics Technology	ENG 7G ENG TEC 7G ROBOTICS 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600090	Exploration of Technical Design Technology	DRAFTING @7 7G ENG 7G ENG TEC 7G GRAPH ARTS @4 PLTW PTE 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600091	Exploration of Electronics Technology	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	
8600092	Exploration of Maritime Technology	ENG 7G ENG TEC 7G SEAMANSHIP 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600093	Exploration of Logistics and Supply Chain Technology	BUS ED 1 ENG 7G ENG TEC 7G LOG TECH 7G TEC ED 1 @2 ENG&TEC ED1@2	Semester
8600094	Exploration of Green Construction and Architecture Technology	BLDG CONST @7 7G BLDG MAINT @7 7G CARPENTRY @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	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.

Exploration of Communications Technology

- 24.0 Demonstrate an application of basic digital publishing techniques.
- 25.0 Identify and describe the major types of printing techniques used in print production.
- 26.0 Identify and demonstrate the role of electronic communication.
- 27.0 Identify and demonstrate the role of optical technology.

Exploration of Production Technology

- 28.0 Identify evolving technologies of Production Systems.
- 29.0 Perform special skills unique to Manufacturing Technology.
- 30.0 Express knowledge of factors that impact Manufacturing Technologies and practices.

Exploration of Aerospace Technology

- 31.0 Discuss educational and training requirements as they relate to various aerospace careers.

- 32.0 Demonstrate an understanding of and be able to select and use aerospace technologies.
- 33.0 Demonstrate knowledge of the basic principles of aerostatics and aerodynamics.
- 34.0 Identify and demonstrate knowledge of both liquid and solid propellant rocket propulsion systems.
- 35.0 Define and describe the stages and forms of interference in basic satellite communication systems.
- 36.0 Become familiar with the basic information provided by a sectional chart.
- 37.0 Describe and define different categories of aviation.

Exploration of Transportation Technology

- 38.0 Perform special skills unique to transportation technologies.
- 39.0 Express knowledge of the industries that deal with transportation technology.

Exploration of Power and Energy Technology

- 40.0 Perform special skills unique to power and energy technologies.
- 41.0 Express knowledge of the industries that deal with power and energy technology.

Exploration of Engineering Technology

- 42.0 Demonstrate skill in technical sketching and drawing as it relates to engineering design.
- 43.0 Demonstrate foundational knowledge and skills associated with the design of engineering systems (e.g. mechanical, fluid, electrical systems).
- 44.0 Demonstrate understanding and use of measurement tools and systems.
- 45.0 Demonstrate an understanding of the engineering process.
- 46.0 Demonstrate foundational knowledge and skills associated with common computer peripherals and computer functions.
- 47.0 Demonstrate an understanding of Internet safety and ethics.
- 48.0 Develop fundamental business productivity software skills.
- 49.0 Successfully work as a member of a team.

Exploration of Robotics Technology

- 50.0 Demonstrate an understanding of robotics, its history, applications, and evolution.
- 51.0 Demonstrate an understanding of basic programming concepts.
- 52.0 Identify the basic subsystems on a robotic system.
- 53.0 Describe the role of sensors in the field of robotics.
- 54.0 Build, program, and configure a robot to perform predefined tasks.
- 55.0 Solve problems using critical thinking skills, creativity and innovation.

Exploration of Technical Design Technology

- 56.0 Demonstrate technical skills and applications common to all types of drafting.
- 57.0 Demonstrate technical knowledge and skills for making basic orthographic drawings.
- 58.0 Demonstrate technical knowledge and skills for making pictorial drawings.
- 59.0 Demonstrate technical knowledge and skills for making a three-dimensional study model.

Exploration of Electronics Technology

- 60.0 Demonstrate an understanding of the nature of electricity.

- 61.0 Explore the basics of electric circuits.
- 62.0 Investigate digital signals and basic digital components.
- 63.0 Demonstrate and apply proper use of electronic equipment.
- 64.0 Demonstrate proper electronic assembly methods.

Exploration of Maritime Technology

- 65.0 Demonstrate knowledge relating to the historical origins of the maritime industry from vessel development, cultural, and trade perspectives.
- 66.0 Demonstrate proficiency in understanding the various career paths in the maritime industry.
- 67.0 Demonstrate an understanding of required skills sets by mariners including, safety training, regulations, and leadership.
- 68.0 Demonstrate proficiency in using engineering methods for ship construction and design.
- 69.0 Identify and explain various vessels and their and their use.
- 70.0 Evaluate the environmental impact of the maritime industry.
- 71.0 Examine the potential and use of marine resources.
- 72.0 Demonstrate an understanding of oceanography concepts.
- 73.0 Demonstrate an understanding of the fundamentals of marine biology.

Exploration of Logistics and Supply Chain Technology

- 74.0 Demonstrate an understanding of global logistics and supply chain.
- 75.0 Demonstrate an understanding of transportation systems.
- 76.0 Demonstrate professional communication skills.
- 77.0 Demonstrate customer service skills.
- 78.0 Demonstrate an understanding of warehouse operations.
- 79.0 Demonstrate an understanding of storage and control operations.

Exploration of Green Construction and Architecture Technology

- 80.0 Demonstrate an understanding of the built environment.
- 81.0 Demonstrate an understanding of the green environment.
- 82.0 Use building laws and codes, style, convenience, cost, climate, and function to select building designs.
- 83.0 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.
- 84.0 Describe the human impact on the environment and identify ways to minimize environmental impacts.
- 85.0 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
Course Number: 8600010
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:
04.01	Describe ethical issues associated with the development and use of technology.

CTE Standards and Benchmarks

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.
11.02	Specify criteria and constraints for the design.

CTE Standards and Benchmarks

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.
19.0	Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:

CTE Standards and Benchmarks

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.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploring Technology
Course Number: 8600020
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 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.
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 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.
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.
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.
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.
17.04	Use symbols, measurements, and drawings to promote clear communication by providing a common language to express ideas.

CTE Standards and Benchmarks

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.
21.07	Safely use hand tools and power equipment.

CTE Standards and Benchmarks

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.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Communications Technology
Course Number: 8600030
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 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.
04.03	Describe ethical issues associated with the development and use of communication technology.

CTE Standards and Benchmarks

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.

CTE Standards and Benchmarks

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.
21.04	Exercise care and respect for all tools, equipment, and materials.

CTE Standards and Benchmarks

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.
24.0	Demonstrate an application of basic digital publishing techniques.--The student will be able to:
24.01	Utilize digital publishing to combine input, editing, and output into a finished product.
24.02	Utilize the components of layouts including type, typography and illustration to digitally manipulate the elements of a published product.
24.03	Develop a web page using appropriate digital software.
24.04	Create a document on a digital publishing system by inputting existing digitized graphics or by digitizing original art or photographs on a digitizing scanner.
25.0	Identify and describe the major types of printing techniques used in print production.--The student will be able to:
25.01	Identify and explain standard printing processes including but not limited to: relief, gravure, screen process, and lithographic printing.
25.02	Utilize common design principles to create camera ready art.
25.03	Produce a printed product using a current printing method.
25.04	Utilize appropriate finishing techniques on a printed project.
26.0	Identify and demonstrate the role of electronic communication.--The student will be able to:
26.01	Explain how to create code, transmit, and receive messages using electronic devices.
26.02	List and explain the common communication categories.

CTE Standards and Benchmarks

26.03	Define and explain the use of telecommunications in everyday life.
26.04	Utilize a telecommunications device to transmit and receive an electronic message.
26.05	Produce an audio and/or visual product using electronic communication technology.
27.0	Identify and demonstrate the role of optical technology.--The student will be able to:
27.01	Identify the purposes and property of light as used in communication technology.
27.02	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.
27.03	Generate a product using optical technology.

***** Minimum Equipment and Tool needs for an Exploration of Communications Technology 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
Course Number: 8600040
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 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.
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:

CTE Standards and Benchmarks

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.

CTE Standards and Benchmarks

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.
19.0	Demonstrate an understanding of and be able to select and use manufacturing technologies.--The student will be able to:

CTE Standards and Benchmarks

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.
28.0	Identify evolving technologies of production systems.--The student will be able to:
28.01	List evolving technologies of manufacturing and construction industries.
28.02	Discuss the evolution of technologies related to manufacturing systems and construction processes.

CTE Standards and Benchmarks

28.03	Brainstorm futuristic production systems.
29.0	Perform special skills unique to manufacturing technology.--The student will be able to:
29.01	Design a product for custom or mass production manufacturing.
29.02	Plan a mass production system for manufacturing a product.
29.03	Perform materials forming practices such as casting or molding, and compressing or stretching.
29.04	Perform materials separating practices such as shearing, chip removing, and other separating processes.
29.05	Perform materials conditioning practices such as heat treating, physical conditioning, or through chemical reactions.
29.06	Combine components through mixing, coating, bonding, and mechanical fastening.
29.07	Assemble a product or a subassembly of a product.
30.0	Express knowledge of factors that impact manufacturing technology and practices.--The student will be able to:
30.01	Explain economic factors that impact on manufacturing technology.
30.02	Research and identify consumer demands for a manufactured product.
30.03	Identify sources of raw materials and/or standard stock materials needed for a manufactured product.
30.04	Interview, hire, train, or promote an applicant or employee for a simulated mass production manufacturing activity.
30.05	Define the terms "organized labor" and "collective bargaining."
30.06	Prepare a plan for marketing and distributing a manufactured product.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Aerospace Technology
Course Number: 8600050
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 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.

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 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:
08.01	Use design as a creative planning process that leads to useful products and systems.

CTE Standards and Benchmarks

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.

CTE Standards and Benchmarks

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).
32.0	Demonstrate an understanding of and be able to select and use aerospace technologies.--The student will be able to:
32.01	Describe subsystems of aerospace vehicles, such as structural, propulsion, suspension, guidance, control, and support that must function together for a system to work effectively.
32.02	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.
31.0	Discuss educational and training requirements as they relate to various aerospace careers.--The student will be able to:
31.01	Research and identify various aerospace career choices.
31.02	Discuss individual interests related to a career.
31.03	List occupations, job requirements, and job opportunities in aerospace technology.
31.04	List occupational training programs and academic programs at the secondary/postsecondary levels in aerospace technology.
33.0	Demonstrate knowledge of the basic principles of aerostatics and aerodynamics.--The student will be able to:

CTE Standards and Benchmarks

33.01	Define terminology associated with aerostatics and aerodynamics.
33.02	Explain how buoyancy principles affect an object in a fluid.
33.03	Explain how Bernoulli's Principle applies to an object in flight.
33.04	Identify and describe basic forces acting on an object in flight.
33.05	Build an aerostatic vehicle.
33.06	Build an aerodynamic vehicle.
34.0	Identify and demonstrate knowledge of both liquid and solid propellant rocket propulsion systems.--The student will be able to:
34.01	Define technical terminology associated with propulsion systems.
34.02	Identify parts of a solid-propellant rocket engine.
34.03	Identify parts of a liquid-propellant rocket engine.
34.04	Discuss the principles of rocket propulsion.
34.05	Construct a solid- or liquid- propellant model rocket.
35.0	Define and describe the stages and forms of interference in basic satellite systems.--The student will be able to:
35.01	Describe the basic functions and advantages of a communications satellite.
35.02	Describe the basic functions and advantages of a weather satellite.
35.03	Describe the basic functions and advantages of a navigation satellite.
36.0	Become familiar with the basic information provided by a sectional chart.--The student will be able to:
36.01	Extract and utilize information from an aeronautical chart legend.
36.02	Identify locations on an aeronautical chart using latitude and longitude
36.03	Differentiate between statute and nautical miles.
36.04	Determine a course and distance between two points on an aeronautical chart using a navigational plotter.
37.0	Describe and define different categories of aviation.--The student will be able to:
37.01	Describe military aviation and be able to identify military aircraft types and missions.
37.02	Define general aviation (including business and executive) and be able identify general aviation aircraft types.
37.03	Define air carrier and be able identify air carrier aircraft types.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Transportation Technology
Course Number: 8600240
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 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.
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.
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.
23.0	Discuss individual interests and aptitudes as they relate to a career.--The student will be able to:

CTE Standards and Benchmarks

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.
38.0	Perform special skills unique to transportation technologies.--The student will be able to:
38.01	Disassemble and reassemble or perform maintenance on a muscle-powered bicycle.
38.02	Disassemble and reassemble or perform maintenance on a pneumatic or hydraulic device.
38.03	Disassemble and reassemble or perform maintenance on an internal combustion engine.
38.04	Disassemble and reassemble or perform maintenance on an electrical motor, generator, or alternator.
38.05	Construct, maintain, or repair a land, water, or air/space vehicle.
39.0	Express knowledge of the industries that deal with transportation technology.--The student will be able to:
39.01	Describe power and energy applications in transportation technology.
39.02	Identify transportation products that have been developed by industries.
39.03	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
Course Number: 8600250
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.

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 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:
08.01	Use design as a creative planning process that leads to useful products and systems.

CTE Standards and Benchmarks

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.

CTE Standards and Benchmarks

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.
40.0	Perform special skills unique to power and energy technologies.--The student will be able to:
40.01	Disassemble and reassemble or perform maintenance on a human-powered device.

CTE Standards and Benchmarks

40.02	Disassemble and reassemble or perform maintenance on a pneumatic or hydraulic device.
40.03	Disassemble and reassemble or perform maintenance on an internal combustion engine.
40.04	Disassemble and reassemble or perform maintenance on an electrical motor, generator, or alternator.
40.05	Construct a water-powered, wind-powered, steam-powered, thermal-powered, or solar-powered device.
41.0	Express knowledge of the industries that deal with power and energy technology.--The student will be able to:
41.01	Identify the technologies that supply or control energy sources.
41.02	Identify technologies that produce power systems.
41.03	Describe power and energy applications in everyday life.
41.04	List energy systems produced or used by industries.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Engineering Technology
Course Number: 8600060
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.
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 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.
42.0	Demonstrate skill in technical sketching and drawing as it relates to engineering design.--The student will be able to:
42.01	Explain the concepts of technical sketching and drawing.
42.02	Create an orthographic sketch or drawing with appropriate layout and dimensions.
42.03	Create an isometric sketch or drawing.
43.0	Demonstrate foundational knowledge and skills associated with the design of engineering systems (e.g. mechanical, fluid, electrical systems).--The student will be able to:
43.01	Measure and calculate dimensions of parts using metric and customary systems.
43.02	Identify simple machines.
43.03	Explain mechanical advantage.

CTE Standards and Benchmarks

43.04	Define scientific quantities that are used in engineering designs (e.g. mass, weight, force, voltage, current, resistance).
43.05	Read and use system schematics (e.g. electrical and hydraulic circuits).
43.06	Assemble, operate, and identify the parts of mechanical and electrical systems.
44.0	Demonstrate understanding and use of measurement tools and systems.--The student will be able to:
44.01	Take and record both U.S customary and SI systems of measurement.
44.02	Convert measurements using both U.S customary and SI systems of measurement.
45.0	Demonstrate an understanding of the engineering process.--The student will be able to:
45.01	Define terminology associated with engineering products and systems.
45.02	Describe the experimental method as it is applied to design.
45.03	Create a model of a design solution to an engineering problem.
45.04	Sketch a graphical or visual solution to an engineering problem.
45.05	Present a report on an engineering design problem, concept or issue.
46.0	Demonstrate foundational knowledge and skills associated with common computer peripherals and computer functions.--The student will be able to:
46.01	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.).
46.02	Identify and describe various computer input devices (e.g., USB, firewall, parallel and serial, Ethernet, printers, camera).
47.0	Demonstrate an understanding of Internet safety and ethics.--The student will be able to:
47.01	Differentiate between viruses and malware, the impact on personal privacy and computer operation, and ways to avoid infection.
47.02	Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.
47.03	Adhere to Acceptable Use Policies when accessing the Internet.
48.0	Develop fundamental business productivity software skills.--The students will be able to:
48.01	Use appropriate functions in a word processing program. (e.g. format text, insert tables, create bulleted lists)
48.02	Describe a spreadsheet and the ways in which it may be used.
48.03	Describe presentation software, the ways it may be used, and appropriate presentation delivery skills.
48.04	Use appropriate functions in a presentation software program. (e.g. insert images, duplicate slides, format text)
49.0	Successfully work as a member of a team.--The student will be able to:
49.01	Accept responsibility for specific tasks in a given situation.

CTE Standards and Benchmarks

49.02 Maintain a positive relationship with other team members.

49.03 Document progress, and provide feedback on work accomplished in a timely manner.

49.04 Complete assigned tasks in a timely and professional manner.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Robotics Technology
Course Number: 8600070
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 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.
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 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.
50.0	Demonstrate an understanding of robotics, its history, applications, and evolution.--The student will be able to:
50.01	Explore robotics history through research of the industry.
50.02	Describe various applications of automation and robotics.
50.03	Describe emerging technologies and their implications on the field of robotics.
51.0	Demonstrate an understanding of basic programming concepts.--The student will be able to:
51.01	Apply the engineering design process to the creation of a program
51.02	Discuss the use of algorithms
51.03	Demonstrate the use of flowcharting in documenting an algorithm

CTE Standards and Benchmarks

51.04	Demonstrate the use of pseudocode in documenting an algorithm
51.05	Explain the function of conditional execution (eg if, if/else) and their uses
51.06	Explain iterative programming structures (e.g., while, do/while) and their uses.
51.07	Demonstrate the use of testing & debugging in the problem solving process
51.08	Create functional program that satisfies prescribed criteria
52.0	Identify the basic subsystems on a robotic system.--The student will be able to:
52.01	Define drivetrain, manipulator, and chassis
52.02	Understand the difference between Ackermann and skid steering
52.03	Identify the difference between Motors and servos
52.04	Calculate simple gear ratios and their relationship with torque vs speed
52.05	Assess the advantages and disadvantages of wheels vs tank treads
52.06	Analyze the characteristics of a sound chassis design
53.0	Describe the role of sensors in the field of robotics.--The student will be able to:
53.01	Define sensor.
53.02	Describe the basic operation common to all sensors.
53.03	Describe the types of sensors and ways in which they can be categorized.
53.04	Investigate the types of manipulators used in a robotic system.
54.0	Build, program, and configure a robot to perform predefined tasks.--The student will be able to:
54.01	Design a robot.
54.02	Create programs as required using robotic software that will allow the robot to perform a set of tasks.
54.03	Create a flow chart that visually describes a basic robotic task.
54.04	Configure subsystems to operate the robot.
54.05	Create a portfolio including drawings and specifications, describing the robot, the tasks and rationale, and the results.
55.0	Solve problems using critical thinking skills, creativity and innovation.--The student will be able to:
55.01	Employ critical thinking skills independently and in teams to solve problems and make decisions.
55.02	Employ critical thinking and interpersonal skills to resolve conflicts.
55.03	Identify and document workplace performance goals and monitor progress toward those goals.

CTE Standards and Benchmarks

55.04 Conduct technical research to gather information necessary for decision-making.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Technical Design Technology
Course Number: 8600090
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.
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 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.
56.0	Demonstrate technical skills and applications common to all types of drafting.--The student will be able to:
56.01	Apply lettering techniques.
56.02	Make freehand sketches.
56.03	Use drafting symbols and alphabet of lines in accordance with technical standards and practices.
56.04	Apply measuring techniques using decimals and fractions.
56.05	Apply industry standard dimensioning techniques.
56.06	Apply geometric construction techniques.
56.07	Interpret information from drawings, prints, and sketches.

CTE Standards and Benchmarks

56.08 Apply coordinate systems.

57.0 Demonstrate technical knowledge and skills for making basic orthographic drawings.--The student will be able to:

57.01 Describe orthographic projection.

57.02 Identify the six principal views of an object.

57.03 Produce a three-view orthographic drawing using traditional drafting methods.

58.0 Demonstrate technical knowledge and skills for making pictorial drawings.--The student will be able to:

58.01 Explain methods of pictorial drawing.

58.02 Produce an isometric drawing using traditional drafting methods.

58.03 Produce an oblique drawing using traditional drafting methods.

58.04 Produce a perspective drawing using traditional drafting methods.

59.0 Demonstrate technical knowledge and skills for making a three-dimensional study model.--The student will be able to:

59.01 Produce a conceptual sketch.

59.02 Produce a three-dimensioned model.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Electronics Technology
Course Number: 8600091
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 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 tested.
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.
60.0	Demonstrate an understanding of the nature of electricity.--The student will be able to:
60.01	Identify parts of an atom.
60.02	Describe how the interaction of charged particles in the atom creates electron flow.

CTE Standards and Benchmarks

60.03	Evaluate whether a material is a conductor, insulator, or semiconductor based upon its number of valence electrons and its position on the periodic table.
60.04	Explain the difference between current, voltage and resistance.
60.05	Describe the properties of a magnet including polarity.
60.06	Identify the primary parts of a DC motor and demonstrate how it functions.
60.07	Identify the primary parts of a generator and demonstrate how it functions.
60.08	Compare and contrast the characteristics of a basic motor and generator.
60.09	Describe the composition of elements, mixtures, and compounds according to the electron theory.
60.10	Diagram and show the relationship between electrons, protons, and neutrons.
60.11	State the law of electrical charges.
60.12	Define electrical quantities (voltage, current, resistance, etc.).
60.13	Define units of measure including milli, micro, mega, and kilo.
61.0	Explore the basics of electric circuits.--The student will be able to:
61.01	Identify the characteristics of series, parallel, and combination electrical circuits.
61.02	Sketch circuit diagrams using standardized schematic symbols.
61.03	Construct physical electrical circuits based upon circuit diagrams.
61.04	Measure voltage, current, and resistance using a multimeter.
61.05	Mathematically calculate voltage, current, and resistance using Ohm's law.
61.06	Integrate DC sources, lamps, switches, diodes, light emitting diodes, resistors, and capacitors into electrical circuits to achieve specific functions.
61.07	Determine the value of a fixed resistor based upon the color codes on those resistors.
62.0	Investigate digital signals and basic digital components.--The student will be able to:
62.01	Identify the relationship between the binary number system and the decimal number system and convert binary numbers to decimal.
62.02	Describe the functions of NOT, AND, OR, NAND, NOR, and XOR gates.
62.03	Create truth tables for logic scenarios and match those gates to truth tables.
62.04	Create a digital wave form and graph it for a binary sequence.
62.05	Determine the logic, sensors, gates, outputs, and other components needed to emulate existing electronic devices that utilize logic.
63.0	Demonstrate and apply proper use of electronic equipment.--The student will be able to:

CTE Standards and Benchmarks

63.01	Use a digital or analog volt-ohm meter (VOM) to obtain accurate measurements.
63.02	Apply safety rules in the use of electronic instruments and demonstrate proper care and maintenance for the equipment during storage and use.
63.03	Use voltmeters, ammeters, and ohmmeters to obtain accurate measurements.
63.04	Set up and use an oscilloscope to observe waveforms and to determine the voltage of the signal presented.
63.05	Use signal generators to produce waveforms of selected frequencies and shapes.
63.06	Use testers to determine the condition of electronic components.
64.0	Demonstrate proper electronic assembly methods.--The student will be able to:
64.01	Exhibit safe soldering techniques.
64.02	Identify proper soldering practices.
64.03	Demonstrate proper soldering applications.
64.04	Identify common electrical and electronics hand tools.
64.05	Demonstrate electronic component assembly.
64.06	Apply electrical tape to a spliced and soldered wire connection.
64.07	Solder and de-solder components and wires.
64.08	Describe the two methods of making a printed circuit board.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Maritime Technology
Course Number: 8600092
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 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.

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 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.
65.0	Demonstrate knowledge relating to the historical origins of the maritime industry from vessel development, cultural, and trade perspectives.--The student will be able to:
65.01	Identify different types of ships and their origins.
65.02	Create a timeline showing significant milestones in maritime history.
65.03	Describe the significance of the Phoenicians, Vikings, and Asians on maritime cultures and traditions.
65.04	Identify changes in sea going trade over the centuries.
65.05	Describe the effect of trade on colonialism and the developing world.
66.0	Demonstrate proficiency in understanding the various career paths in the maritime industry.--The student will be able to:
66.01	Identify important factors to choosing a career.

CTE Standards and Benchmarks

66.02	Explain the importance of planning for a career.
66.03	Evaluate the impact of education on long term career success.
66.04	Research and investigate career paths in the maritime industry.
66.05	Describe the skills and personal qualities needed for maritime careers.
66.06	Describe the everyday life of people working in maritime careers.
66.07	Describe the future growth trends of maritime careers.
66.08	Create a personal maritime career path based on interest.
67.0	Demonstrate an understanding of required skills sets by mariners including, safety training, regulations, and leadership.--The student will be able to:
67.01	Create a timeline explaining the evolution of the U.S. Coast Guard.
67.02	Explain the main functions of the U.S. Coast Guard.
67.03	Describe the U.S. Coast Guard and its place in the U.S. military.
67.04	Describe the organization and leadership hierarchy on a vessel.
67.05	Explain Master's Level of Authority.
67.06	Describe the importance of leadership and chain-of-command on a vessel.
67.07	Use seamanship skills to tie knots, identify equipment, and practice safe work methods.
67.08	Describe the process of watch keeping, navigation, boat handling, anchoring, and mooring.
67.09	Use seamanship terminology.
68.0	Demonstrate proficiency in using engineering methods for ship construction and design.--The student will be able to:
68.01	Identify and describe various types of marine engines.
68.02	Explain the phenomenon of wind generation.
68.03	Explain how wind has been used to propel ships.
68.04	Describe the process and instrumentation for measuring and calculating wind power.
68.05	Describe the principles of buoyancy.
68.06	Explain the relationship between weight, volume, and density.
68.07	Explain Archimedes Principal.
68.08	Explain how a ship made of steel is able to float.
68.09	Construct a model vessel from material with a density greater than 1 and ensure it floats.

CTE Standards and Benchmarks

68.10	Use the engineering process to create solutions for a maritime related problem.
68.11	Work in teams to using the engineering process to create solutions for a maritime problem.
69.0	Identify and explain various vessels and their and their use.--The student will be able to:
69.01	Identify various types of ships.
69.02	Explain specific reasons for different types of ships.
69.03	Describe different types of cargo vessels and cargo types.
69.04	Describe different types of passenger vessels and their purpose
70.0	Evaluate the environmental impact of the maritime industry.--The student will be able to:
70.01	Explain the role of maritime in protection of the environment.
70.02	Describe the environmental regulations on the maritime industry.
71.0	Examine the potential and use of marine resources.--The student will be able to:
71.01	Identify various energy sources related to the marine environment.
71.02	Describe how solar energy can be used to provide power for ships.
71.03	Provide three examples of solar power use in the maritime industry.
71.04	Explain how power could be generated from currents.
71.05	Describe how energy can be created from tidal movements and what technology is used to perform this function.
72.0	Demonstrate an understanding of oceanography concepts.--The student will be able to:
72.01	Explain oceanography's role as a marine science discipline and its areas of investigation.
72.02	Explain how ocean currents form and their role in distribution of heat.
72.03	Describe the various types of tides and why they are monitored throughout the maritime industry.
72.04	Evaluate the difference between tides, currents, and waves.
72.05	Compare the El Nino and La Nina events and their impact on weather.
72.06	Identify various ways wave energy is created and how it moves through the ocean.
72.07	Apply mathematics to waves to solve for wave height and wave length.
72.08	Explain the Coriolis Effect.
72.09	Describe the theory of global warming and how humans have contributed to associated maritime events.
73.0	Demonstrate an understanding of the fundamentals of marine biology.--The student will be able to:

CTE Standards and Benchmarks

73.01 Describe how freshwater collects on the earth's surface and its relation to the oceans.

73.02 Explain the ecological importance of mangroves in water filtration and runoff.

73.03 Explain the role of mangroves in high energy events and environmental concerns for their removal.

73.04 Identify and explain the importance of estuaries.

**Florida Department of Education
Student Performance Standards**

Course Title: Exploration of Logistics and Supply Chain Technology
Course Number: 8600093
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 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.
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 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.
74.0	Demonstrate an understanding of global logistics and supply chain.--The student will be able to:
74.01	Discuss the history, career fields, and benefits of the global supply chain industry.
74.02	Describe principal elements of the logistics environment and logistics systems.
74.03	Explore career pathways within global logistics and supply chain.
74.04	Explain ways in which handling of product throughout supply chain logistics affects company's viability and profitability.
74.05	Define basic principles of just-in-time purchasing and inventory control.
74.06	Identify major security requirements applicable to the logistics environment.
74.07	Cite examples of environmental and financial impacts of logistics activities.

CTE Standards and Benchmarks

75.0 Demonstrate an understanding of transportation systems.--The student will be able to:

75.01 Identify various transportation modes.

75.02 Describe and contrast the different modes of transportation and their advantages/disadvantages.

75.03 List the main considerations in determining the best mode.

75.04 Describe and assess global freight transportation systems.

76.0 Demonstrate professional communication skills.--The student will be able to:

76.01 Identify effective communications to both internal and external customers.

76.02 Identify ways to elicit clear statements of customer requirements and specifications.

76.03 Demonstrate an understanding of teamwork and good professional workplace behavior to solve problems.

76.04 List characteristics of an effective team member.

76.05 Explain ways to set team goals.

76.06 Identify use of team environment to solve problems and resolve conflicts.

76.07 Describe typical requirements for good workplace conduct.

77.0 Demonstrate customer service skills.--The student will be able to:

77.01 Exhibit acceptable workplace dress or attire.

77.02 Exhibit punctuality, initiative, courtesy, loyalty, and honesty.

77.03 Use a personality inventory for personal improvement.

77.04 Exhibit the ability to get along with others.

77.05 Discuss the importance of human relations.

77.06 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.

77.07 Differentiate between an acceptable and an unacceptable code of business ethical conduct.

78.0 Demonstrate an understanding of warehouse operations.--The student will be able to:

78.01 Identify and discuss the characteristics, purpose and importance of warehouse operations and supply chain management.

78.02 Define material handling logistics as it applies to the warehousing function.

78.03 Define "logical" in terms of the term logistics.

78.04 Define movement in a warehouse and identify the various locations within the warehouse where planned efficient movement of materials takes place.

78.05 Explain channels of distribution.

CTE Standards and Benchmarks

78.06	Discuss safety regulatory requirements and procedures.
78.07	Identify various types of equipment available to enhance the efficient movement of materials within a warehouse.
78.08	Identify the various types of loading docks and cross docking.
78.09	Define the term "peaks and valleys" as it applies to warehouse activity.
78.10	Explain the importance of staging and JIT.
78.11	Identify the primary types of hand-operated pieces of warehouse equipment.
78.12	Explain the concept of "balancing" as it applies to counterbalanced lift trucks.
78.13	Identify warehouse documents (e.g., pick tickets, special orders, inventory forms).
79.0	Demonstrate an understanding of storage and control operations.--The student will be able to:
79.01	Explain the concepts involved in determining the best method for storage and the equipment needed to facilitate a cost effective and efficient warehouse.
79.02	Identify the factors that are involved with the calculating and estimating of the storage area needed for retention of materials in a warehouse.
79.03	Define the following storage related terms: Size, Volume, Density, Pallet, and Case.
79.04	Define the terms packaging, SKU, stacking frame, term "Logistics Execution Systems" (LES), signage and signposting, "real time" and barcoding.
79.05	Explain how the volume of materials, space usage, and control affect the design of storage space in a warehouse design.
79.06	Explain inventories and their importance.
79.07	Identify and analyze various warehouse storage systems.
79.08	Identify the basic configuration for pallet rack.
79.09	Identify the various types of technologies developed over the years to keep track of goods within the warehouse.
79.10	Define the components of an LES.
79.11	Define radio frequency identification (RFID).
79.12	Explain the importance of automation in warehousing.
79.13	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
Course Number: 8600094
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 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.
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 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.
80.0	Demonstrate an understanding of the built environment.--The student will be able to:
80.01	Research the development of construction technology, its impact on the built environment and the impact of growth on the construction industry.
80.02	Examine and compare the relationship between the built environment and the natural environment.
80.03	Compare architectural designs and/or models to understand how technical and functional components impact aesthetic qualities.
80.04	Analyze changes in architectural styles and construction practices over time.
80.05	Research innovative historical architectural and/or engineering works and examine the significance of their legacy for the future.
81.0	Demonstrate an understanding of the green environment.--The student will be able to:

CTE Standards and Benchmarks

81.01	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.
81.02	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.
81.03	Examine and compare the relationship between a green built environment and the natural environment.
81.04	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.
81.05	Research sustainable building design and its relationship between health, energy efficiency and money savings for government, businesses and individuals.
81.06	Research the effects of building science on construction and energy efficiency.
81.07	Research renewable fuels and energy.
82.0	Use building laws and codes, style, convenience, cost, climate, and function to select building designs.--The student will be able to:
82.01	Identify the function and types of building foundations.
82.02	Identify the subsystems contained in buildings.
82.03	Summarize energy efficient building materials and processes.
83.0	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:
83.01	Apply a systematic process to determine to meet the criteria and constraints of the problem.
83.02	Make two-dimensional and three-dimensional representations of the designed solution
83.03	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.
83.04	Apply a design process to solve problems in or beyond the laboratory-classroom.
83.05	Summarize energy efficient building materials and processes.
83.06	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
84.0	Describe the human impact on the environment and identify ways to minimize environmental impacts.--The student will be able to:
84.01	Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
84.02	Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems.
84.03	Analyze recycling opportunities for building construction and materials.
84.04	Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

CTE Standards and Benchmarks

85.0	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:
85.01	Construct geometric figures including but not limited to triangles, squares, rectangles, and circles.
85.02	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.
85.03	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.
85.04	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 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: Exploration of Production Technology and Career Planning*
Course Type: Orientation/Exploratory and Career Planning
Career Cluster: Engineering & Technology Education

Secondary – Middle School

Course Number	8600042
CIP Number	08210122CE
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 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
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 METAL WORK 7G PLTW PTE 7G TEC CONSTR @7 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 manufacturing technologies.
- 15.0 Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.
- 16.0 Exhibit positive human relations and leadership skills.
- 17.0 Discuss individual interests, aptitudes, and opportunities as they relate to a career.
- 18.0 Identify evolving technologies of production systems.
- 19.0 Perform special skills unique to manufacturing technology.
- 20.0 Express knowledge of factors that impact manufacturing technology and practices.

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

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

Florida Department of Education
Student Performance Standards

Course Title: Exploration of Production Technology and Career Planning
 Course Number: 8600042
 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 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.
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.

CTE Standards and Benchmarks

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	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.

CTE Standards and Benchmarks

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:

CTE Standards and Benchmarks

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 manufacturing technologies.--The student will be able to:
14.01	Describe manufacturing systems using mechanical processes that change the form of materials through processes of separating, forming, combining, and conditioning them.
14.02	Classify manufactured goods as durable and non-durable.
14.03	Employ the manufacturing process including the designing, development, making, and servicing of products and systems.
14.04	Describe manufacturing technologies that are used to modify or alter manufactured products.
14.05	Explain that materials must first be located before they can be extracted from the earth through processes such as harvesting, drilling, and mining.
15.0	Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.--The student will be able to:
15.01	Follow laboratory safety rules and procedures.
15.02	Demonstrate good housekeeping at workstations within a total laboratory.
15.03	Conduct laboratory activities and equipment operations in a safe manner.
15.04	Exercise care and respect for all tools, equipment, and materials.
15.05	Select appropriate tools, machines, and equipment to accomplish a given task.
15.06	Identify color-coding safety standards.
15.07	Safely use hand tools and power equipment.
15.08	Explain fire prevention and safety precautions and practices for extinguishing fires.
15.09	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
16.0	Exhibit positive human relations and leadership skills.--The student will be able to:
16.01	Perform roles in a student personnel system or in the Florida Technology Student Association (FL-TSA).

CTE Standards and Benchmarks

16.02 Work cooperatively with others.

17.0 Discuss individual interests, aptitudes, and opportunities as they relate to a career.--The student will be able to:

17.01 Identify individual strengths and weaknesses.

17.02 Discuss individual interests related to a career.

17.03 List occupations, job requirements, and job opportunities in production technology.

17.04 List occupational training programs and academic programs at the secondary/postsecondary levels in production technology.

18.0 Identify evolving technologies of production systems.--The student will be able to:

18.01 List evolving technologies of manufacturing and construction industries.

18.02 Discuss the evolution of technologies related to manufacturing systems and construction processes.

18.03 Brainstorm futuristic production systems.

19.0 Perform special skills unique to manufacturing technology.--The student will be able to:

19.01 Design a product for custom or mass production manufacturing.

19.02 Plan a mass production system for manufacturing a product.

19.03 Perform materials forming practices such as casting or molding, and compressing or stretching.

19.04 Perform materials separating practices such as shearing, chip removing, and other separating processes.

19.05 Perform materials conditioning practices such as heat treating, physical conditioning, or through chemical reactions.

19.06 Combine components through mixing, coating, bonding, and mechanical fastening.

19.07 Assemble a product or a subassembly of a product.

20.0 Express knowledge of factors that impact manufacturing technology and practices.--The student will be able to:

20.01 Explain economic factors that impact on manufacturing technology.

20.02 Research and identify consumer demands for a manufactured product.

20.03 Identify sources of raw materials and/or standard stock materials needed for a manufactured product.

20.04 Interview, hire, train, or promote an applicant or employee for a simulated mass production manufacturing activity.

CTE Standards and Benchmarks

20.05 Define the terms "organized labor" and "collective bargaining."

20.06 Prepare a plan for marketing and distributing a manufactured product.

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:

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

22.0 Develop skills to locate, evaluate, and interpret career information.

23.0 Identify and demonstrate processes for making short and long term goals.

24.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

25.0 Understand the relationship between educational achievement and career choices/postsecondary options.

26.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

27.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

28.0 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.